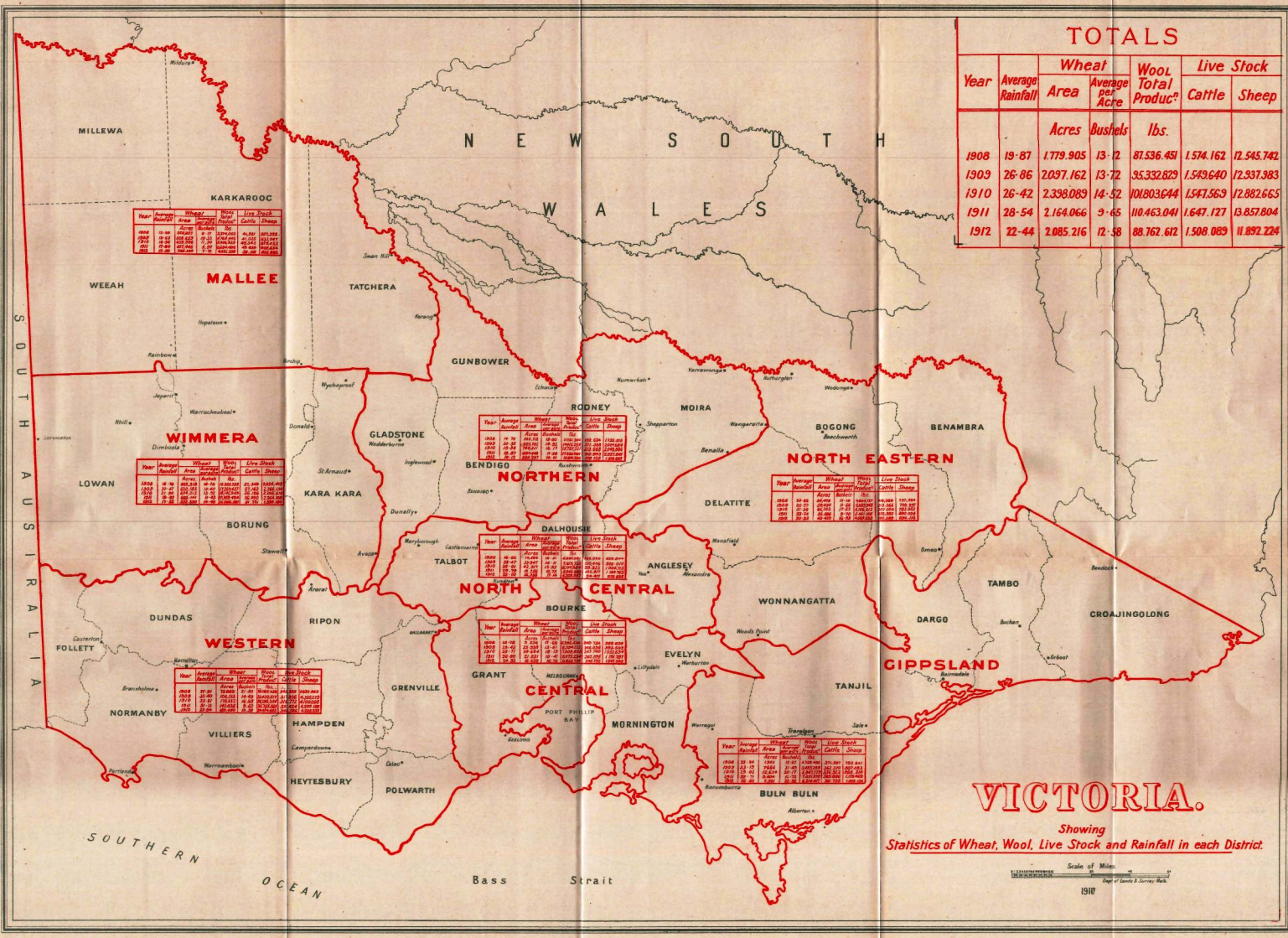
TOTALS
Year | Average Rainfall | Wheat: Area | Wheat: Average per Acre | Wool Total Product | Live Stock: Cattle | Live Stock: Sheep
Acres | Bushels | lbs.
1908 | 19·87 | 1.779.905 | 13·12 | 87.536.451 | 1.574.162 | 12.545.742
1909 | 26·86 | 2.037.162 | 13·72 | 95.332.829 | 1.549.640 | 12.937.983
1910 | 26·42 | 2.398.089 | 14·52 | 101.803.644 | 1.547.569 | 12.882.665
1911 | 28·54 | 2.164.066 | 9·65 | 110.463.041 | 1.647.127 | 13.857.804
1912 | 22·44 | 2.085.216 | 12·58 | 88.762.612 | 1.508.089 | 11.892.224
NEW SOUTH WALES
SOUTH AUSTRALIA
MILLEWA
KARKAROOC
MALLEE
WEEAH
TATCHERA
GUNBOWER
WIMMERA
LOWAN
KARA KARA
GLADSTONE
BENDIGO
NORTHERN
RODNEY
MOIRA
BOGONG
BENAMBRA
NORTH EASTERN
DELATITE
BORUNG
DALHOUSIE
TALBOT
ANGLESEY
NORTH CENTRAL
BOURKE
WONNANGATTA
TAMBO
CROAJINGOLONG
DARGO
GIPPSLAND
DUNDAS
RIPON
WESTERN
FOLLETT
NORMANBY
GRENVILLE
GRANT
EVELYN
CENTRAL
TANJIL
HAMPDEN
VILLIERS
PORT PHILLIP BAY
MORNINGTON
HEYTESBURY
POLWARTH
BULN BULN
SOUTHERN OCEAN
Bass Strait
VICTORIA.
Showing
Statistics of Wheat, Wool, Live Stock and Rainfall in each District.
Scale of Miles
Dept of Lands & Survey Melb.
1912

PRODUCTION.

LAND SETTLEMENT, ETC.

Private and Crown lands.

The total area of the State is 56,245,760 acres. On 31st December, 1912, 30,627,461 acres were held privately, of which 23,856,389 acres had been alienated in fee simple and 6,771,072 acres were in process of alienation. The total area of Crown lands is thus 25,618,299 acres, which comprise roads in connexion with lands alienated and in process of alienation, 1,708,824 acres; agricultural college and water reserves, 400,855 acres; State forests and timber reserves (under *Forests Act* 1907), 3,825,946 acres; other reserves, 697,181 acres; unsold land in cities, towns, boroughs, beds of rivers, creeks, lakes and lagoons, water frontages (including coast reserves) and various Departmental reserves, 2,022,735 acres; in occupation under grazing area leases, 2,869,095 acres; Mallee leases (perpetual and pastoral), 675,501 acres; all other licences and leases, 164,786 acres; and areas remaining for disposal, as tabulated on page 620, 13,253,376 acres.

Alienation of land, 1900 to 1912

During the year 1900, 494,752 acres, including land selected in previous years, were alienated in fee simple; 406,145 acres were so alienated in 1901; 523,574 acres in 1902; 510,080 acres in 1903; 584,010 acres in 1904; 907,339 acres in 1905; 344,519 acres in 1906; 181,050 acres in 1907; 137,023 acres in 1908; 150,948 acres in 1909; 127,993 acres in 1910; 159,892 acres in 1911; and 128,427 acres in 1912; the purchase money being £526,650 in 1900; £438,363 in 1901; £555,538 in 1902; £542,011 in 1903; £613,511 in 1904; £934,386 in 1905; £375,296 in 1906; £208,619 in 1907; £176,335 in 1908; £188,017 in 1909; £171,904 in 1910; £136,277 in 1911; and £165,854 in 1912. The area of Crown lands absolutely or conditionally sold during the last twelve years was 232,783 acres in 1900; 523,464 in 1901; 306,806 in 1902; 347,813 in 1903; 263,180 in 1904; 226,197 in 1905; 179,755 in 1906; 197,545 in 1907; 220,435 in 1908; 264,572 in 1909; 254,489 in 1910; 209,776 in 1911; and 118,750 acres in 1912.

Pastoral occupation of Crown lands.

The particulars of Crown lands leased out for pastoral occupation on 31st December, 1912, are as follows:—

Number of Licences and Leases	16,488
Area (acres)	14,443,191
Annual Rental	£48,073

These licences and leases are not all on the same footing as regards the term and the privileges of tenure. For instance, grazing area leases are granted for any term of years expiring not later than 29th December, 1920, whilst grazing licences are renewable annually and are only granted for waste lands of the Crown until required under the principal sections of the Act. The lessee of a grazing area has the privilege of selecting (*i.e.*, of purchasing under the deferred payment system on certain conditions) out of his lease for agricultural or grazing purposes, an area not exceeding 200 acres

of first class, 320 acres of second class, or 640 acres of third class land, according to classification; and the lessee of a Mallee allotment has a like privilege of selecting out of his lease 640 acres of first class, 1,000 acres of second class, or 1,280 acres of third class land, according to classification.

Total amount realized by sale of Crown lands.

From the period of the first settlement of the State to the end of 1912 the amount realized by the sale of Crown lands was £32,983,741, or about £1 1s. 7d. per acre. It must, however, be remembered that payment of a considerable portion of this amount extended over a series of years without interest, upon very easy terms.

Lands remaining for disposal.

The following table shows the whole of the unalienated lands of the Crown remaining for disposal:—

CROWN LANDS REMAINING FOR DISPOSAL ON 31ST DECEMBER, 1912.

Location.	Classification.						Total.
	Agricultural and Grazing.				Auriferous.	Pastoral.	
	First.	Second.	Third.	Unclassed.			
County.	acres.	acres.	acres.	acres.	acres.	acres.	acres.
Bulu Bulu	3,630	41,372	37,648	..	4,685	..	87,335
Croajingolong ..	2,380	4,136	496,600	216,500	14,150	549,000	1,282,766
Dargo	..	..	67,500	180,000	96,600	235,600	579,700
Tambo	..	..	213,000	..	3,800	375,450	592,250
Tanjil	..	..	56,540	..	67,000	356,000	479,540
Wonnangatta ..	..	39	128,964	..	..	946,800	1,075,803
Bogong	3,114	12,498	167,563	..	123,177	203,692	510,044
Benambra	..	292	189,825	..	107,104	294,694	591,915
Delatite	1,025	20,900	202,164	..	65,638	180,300	470,027
Moira	25	..	9,115	..	..	..	9,140
Anglesey	26	3,841	49,069	..	8,278	..	61,214
Bourke	..	370	100	..	..	..	470
Dalhousie	20	749	5,691	..	2,342	..	8,802
Evelyn	470	27,613	..	..	5,752	..	33,835
Mornington ..	..	21,040	33,218	..	..	..	54,258
Bendigo	100	610	6,796	..	8,080	..	15,586
Rodney	..	165	646	..	140	..	951
Borung	..	527	33,314	..	10,422	2,595	46,858
Gladstone	415	593	1,753	..	44,517	..	47,278
Lowan	..	177	40,231	..	..	9,669	50,077
Kara Kara	..	738	998	..	14,050	..	15,786
Talbot	..	165	178	..	67,987	..	68,330
Tatchera	..	70	..	..	..	..	70
Heytesbury ..	..	860	162,133	..	..	..	162,993
Polwarth	280	6,120	30,540	..	..	..	36,940
Grant	..	75	26,169	..	17,480	..	43,724
Grenville	..	..	..	..	20,455	..	20,455
Ripon	..	..	14,267	..	8,310	..	22 577
Normanby	..	621	62,328	..	..	..	62,949
Dundas	425	40	28,737	..	..	..	29 202
Villiers	..	..	238	..	..	..	238
Follett	..	..	8,505	..	..	..	8,505
Totals ..	11,910	143,611	2,073,830	396,500	689,967	3,153,800	6,469,618

Throughout the State	Swamp or reclaimed lands	1,083
" " ..	Lands which may be sold by auction	11,975
The north-western portion of the State ..	Mallee lands (such as are suitable to be eventually classed 1st, 2nd, or 3rd class for selection)	6,770,700
Total area remaining for disposal		13,253,376

For the purposes of administration, the State is divided into seventeen districts, in each of which there is a land office under the management of a land officer. These offices are situated at Melbourne, Ararat, Alexandra, Bairnsdale, Ballarat, Beechworth, Benalla, Bendigo, Geelong, Hamilton, Horsham, Omeo, Sale, Seymour, St. Arnaud, Stawell and Warracknabeal, and the officers stationed at these centres are in a position to point out the exact localities of available lands to intending selectors. Pamphlets with fuller details are obtainable from the Crown Lands Inquiry Office, Melbourne.

Persons who may select land.

Any person of the age of 18 years or upwards is eligible to take up or select under the Land Acts a prescribed area varying according to the classification of the land—less the area of previous selections.

Land Acts.

The present system of disposing of the Crown lands of Victoria dates from the passing of the *Land Act* 1884 and the *Mallee Pastoral Leases Act* 1883, which, with subsequent amendments, were consolidated by the *Land Act* 1890. This Act was in turn amended by the Land Acts 1891, 1898, 1900, and 1900 (No. 2); and by the *Settlement on Lands Act* 1893, and the *Mallee Lands Act* 1896. These Acts were all consolidated into the *Land Act* 1901, which has been amended by the Land Acts of 1903, 1904, 1905, 1909, and 1911. With the *Land Act* 1898 (Part III.) was introduced a system by which the Government was enabled to repurchase private lands for closer settlement. This subject is dealt with on page 627.

Agricultural and grazing lands.

The Crown lands termed Agricultural and Grazing lands are arranged in three classes—first, second, and third.

The lands of the first class, comprising 11,910 acres, are situated principally in the county of Buln Buln, are heavily timbered, and consist for the most part of good chocolate soil of volcanic origin, and the grey soil of the coal-bearing country. The second-class lands, embracing 143,611 acres, are fairly distributed throughout the State, and comprise silurian and granite ranges, and lower lands of tertiary formation. A large portion of these lands has chiefly a grazing value, though parts, comprising creek flats and gullies, are suitable

for cultivation, while large areas are specially suitable for vineyards and orchards. The area of third class lands, which like the second class lands are to be found in almost every county in the State is very extensive, amounting to 2,073,830 acres.

Grazing area leases.

Grazing area leases may be issued for any term of years expiring not later than 29th December, 1920, for areas not exceeding 200, 640, or 1,280 acres of 1st, 2nd, or 3rd class land, at annual rentals, according to classification and valuation, of not less than 3d., 2d., and 1d. per acre respectively. The areas must be enclosed by a fence within the first three years, or, with approval, otherwise improved to an amount equal to the cost of fencing. A lessee may at any time apply to select from his area, as provided in the lease, under the provisions of sections 47, 50, or 54 of the *Land Act* 1901, and sections 8 to 13 of the *Land Act* 1911. Grazing area leases are transferable with consent obtained through the Department.

Selection purchase leases.

A person desirous of selecting land and obtaining the freehold thereof may do so by either taking up a grazing area lease and selecting therefrom as described in the preceding paragraph, or by taking up direct a selection purchase lease. Selection purchase leases of agricultural and grazing lands may be acquired under the provisions of the following table, with or without a residence condition. The Acts provide for either 20 or 40 years' tenure (at option), with half-yearly payments towards the purchase of areas not exceeding 200, 320, or 640 acres of 1st, 2nd, or 3rd class land respectively. Specified conditions must be complied with, and improvements effected during the first six years, as indicated in the table (p. 623), after which the Crown grant may be obtained, if desired, upon payment in full of the balance of the purchase money at any time during the currency of the lease. The lease is not negotiable during the first six years, though a lien may be registered upon the improvements effected. After six years, the lease may be operated upon as freely as the Crown grant, if all conditions have been complied with. The selector under residence conditions is required to reside on the land, or within 5 miles thereof, for a minimum of three years and nine months during the first six years, but substituted occupation by a selector's wife, or child over 18 years of age, or parent dependent for support, may be sanctioned.

Explanatory Selection Table.

Classification of Land.	Maximum Area.		(*a*) Value per Acre.			(*b*) Value of Improvements per Acre to be effected by a Licensee before the end of specified Periods.									
				Annual Rental (payable half-yearly).		Residence Lease (Section 11 of *Land Act* 1911).				Non-Residence Lease (Section 13 of *Land Act* 1911).					
	Ordinary Crown Lands.	Mallee Lands.	Total (Minimum).	20-Year Period (Residence or Non-Residence).	40-Year Period (Residence only).	2nd Year.	3rd Year.	4th Year.	6th Year.	1st Year.	2nd Year.	3rd Year.	4th Year.	5th Year.	6th Year.
	Acres.	Acres.	£ s. d.	per Acre. £ s. d.	per Acre. £ s. d.	£ s. d.	£ s. d.	£ s. d.	Total. £ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Total. £ s. d.
1st	200	640	1 0 0	0 1 0	0 0 6	0 3 4	0 6 8	0 10 0	1 0 0	0 6 8	0 13 4	1 0 0	1 6 8	1 13 4	2 0 0
2nd	320	1,000	0 15 0	0 0 9	0 0 4½	0 2 6	0 5 0	0 7 6	0 15 0	0 5 0	0 10 0	0 15 0	..	..	0 15 0
3rd	640	1,280	0 10 0	0 0 6	0 0 3	..	0 5 0	..	0 10 0	0 3 4	0 6 8	0 10 0	..	..	0 10 0

(*a*) Under Act 1831 the value may be fixed higher if the value of the and is greater than the minimum stated, in which case the half-yearly payments are increased *pro rata*.

(*b*) Any payment made by an incoming applicant for existing improvements is credited as expenditure, and improvements made in excess for any one year (if maintained) is set off against expenditure required in the next or following years.

Perpetual leases.

Instead of selecting by way of selection purchase lease under which the freehold is obtained, a person may acquire a similar area of agricultural and grazing lands under perpetual lease. The annual rental is 4 per cent. of the unimproved value of the land, which is fixed at £1, 15s., or 10s. per acre for first, second, or third class lands respectively. The rent is subject to revision every ten years, but must not exceed 4 per cent. of the unimproved value of the land. Residence on or within five miles of the land for six months during the first year, and for eight months during each of the four following years, is necessary; but if one-fourth of the allotment be cultivated during the first two years, and one-half before the end of the fourth year, the residence covenant will not be enforced.

Mallee Lands.

The "mallee country"—so named from the scrub found growing there—occupies about 11,000,000 acres in the north-west portion of the State. The soil is light chocolate and sandy loam, and in its virgin state is covered with mallee scrub, interspersed with plains lightly timbered with box, she-oak, and pines. Since the introduction of the "mallee roller" and the "stump-jump" plough, it has been possible to clear off the scrub at a moderate cost. With the extension of railway facilities and by the utilization of some of the surplus waters of the Murray for irrigation there will be great scope for successful settlement in this country. There are now 6,770,700 acres included in the general list of unalienated lands, portions of which, as opportunity offers, may become classified as first, second, or third class lands for selection. The terms of purchase by selection purchase lease are similar to those previously described, viz., for first, second, and third class land, not less than £1, 15s., and 10s., respectively, payable during either 20 or 40 years. Larger areas may be held, however, the maximum being 640 acres, 1,000 acres, and 1,280 acres respectively. In the case of Mallee Perpetual Leases the rental must not exceed 1¼ per cent. of the unimproved value, and if one-fourth of the area be cultivated within four years and one-half by the end of the sixth year, or improvements be effected to the extent of 10s., 7s. 6d., or 5s. per acre, according to the classification, residence is unnecessary.

Auriferous lands.

The "auriferous lands" unalienated comprise 689,967 acres, and are distributed over twenty counties in various parts of the State. Any portions which are found to be non-auriferous, or which can be alienated without injury to mining interests, may be reclassed as agricultural and grazing lands for selection. These lands are for the most part suitable for fruit culture and grazing. Annual licences are issued for areas of auriferous lands not exceeding 20 acres on payment of a yearly licence-fee of 5s. for areas of 3 acres or under, of 10s. for areas of from 3 to 10 acres, and of 1s. per acre for areas of over 10 acres. The licensee has the right to use the surface of the land only, cannot assign or sublet without permission, and must either reside on the land or within four months enclose the same with a fence and cultivate one-fifth of the area. He must post notices on the land, indicating that it is auriferous; and miners must be allowed free access to any part of the land not occupied by buildings. If at any time the mining objections be removed a licensee who has complied with conditions may surrender the licence—credit being given for all rent paid, occupation, and improvements effected—and obtain a selection purchase lease which enables the freehold to be obtained. Holders of miners' rights, issued under the Mines Acts 1890 and 1897, are entitled to occupy for the purpose of residence or business a maximum area of one acre or less as fixed by local mining by-laws. The fee is £5 per annum for a business licence, and 2s. 6d. for a miner's right, and a habitable dwelling must be erected on the area within four months. After having been in possession for two and a half

years, and having erected buildings or other improvements, the holder may apply for leave to purchase his allotment at a price to be determined by the Board of Land and Works.

Special settlement areas.

Any area of Crown lands (not being auriferous, nor permanently reserved), on which expenditure has been incurred by the Crown, may be proclaimed a "Special Settlement Area," and surveyed into allotments not exceeding 200 acres. Such allotments may be acquired under Conditional Purchase Lease, with provisions that the land shall at all times be maintained and used for the purpose of residence and agriculture; and, further, that only one such allotment can be held or used by any one person.

Swamp or reclaimed lands.

The area of swamp or reclaimed lands unalienated amounts to 1,083 acres. The most important of these are situated at Koo-wee-rup, Moe, and Condah, which have been reclaimed at considerable cost to the Crown. These lands are divided into allotments not exceeding 160 acres. When the value of an allotment has been determined, it may be disposed of in one of four ways, viz., under a 21 years' lease; under perpetual lease, at a rental of 4 per cent. on the value of the land; under a conditional purchase lease, payment extending over 31½ years by 63 half-yearly instalments, including 4½ per cent. interest on the balance of the unpaid purchase money; or by public auction, on terms similar to those explained in the following paragraph.

Lands for sale by auction.

Country lands specially classed for sale by auction (not including swamp or reclaimed lands) and remaining unalienated on 31st December, 1912, comprised 11,975 acres. Any unsold land in a city town, or borough, areas specially classed for sale, isolated pieces not exceeding 50 acres, and sites for church or charitable purposes of not more than 3 acres, may be sold by auction. The terms are cash, or a deposit of one-eighth of the purchase money and the balance in from 6 to 20 half-yearly instalments with interest at 4 per cent. per annum. There are stringent provisions prohibiting agreements which would prevent fair competition.

Pastoral lands.

The "pastoral lands" unalienated comprise 3,153,800 acres, and are situated in the counties of Wonnangatta, Croajingolong, Tambo, Tanjil, Benambra, Dargo, Bogong, Delatite, Lowan, and Borung. Generally speaking these lands are difficult of access, and large portions are in high altitudes, where cultivation is impossible and grazing impracticable except during the summer months. Areas which are found suitable may as occasion requires be reclassed Agricultural and Grazing lands for selection.

Annual grazing licences.

Annual grazing licences may be issued to enter with cattle, sheep, or other animals upon reserves, "pastoral lands," "Mallee lands," or other Crown lands, not required in the meantime for other purposes. Such licences are renewable for a period not exceeding seven years, subject to cancellation at any time during the period. Any fencing erected by a licensee may be removed by him.

Bee ranges. Annual licences for bee farms may be granted (not exceeding three to one individual) for areas of not more than 10 acres in the whole at a rental of 1s. per acre per annum—for conditions see section 9, *Land Act* 1905. A bee range licence may be secured on payment of one halfpenny for every acre of Crown land within a radius of 1 mile of the apiary, and for the purpose all suitable timber may be protected from destruction on any areas, even though held under grazing leases or licences.

Other leases, purchases, &c. Leases up to 21 years at an annual rental of not less than £5, and annual licences at various rates are issued for different purposes, such as sites for residences, gardens, inns, stores, smithies, butter factories, creameries, brickworks, &c. Licensees who have been in possession of land for five years (if the land is outside the boundaries of a city), may purchase at a price to be determined, in which case any rents previously paid will be credited towards purchase money.

Village settlement. An Act (the *Settlement on Lands Act* 1893, No. 1311) was passed on 31st August, 1893, providing for the establishment of three descriptions of rural settlements, viz. :—Village Communities, Homestead Associations and Labour Colonies, and certain lands were set apart in connexion therewith.

The Homestead Associations were originally combinations of not less than six persons who desired to settle near each other. These Associations, however, proved unsuccessful, and the section of the Act relating to them was repealed in 1904.

The area originally made available for Village Communities and Homestead Associations was 156,020 acres in 85 different localities in the State. A large portion of that area was, however, found to be unsuitable for Village Settlement purposes, and has been withdrawn from the operation of the Act. The area which a settler could acquire, viz., 20 acres, was altered by the *Land Act* 1904 to such an area as would not exceed £200 in value. The total area now occupied is 25,103 acres, and this is divided amongst 1,037 settlers, giving an average of 24 acres each. These figures do not apply to a considerable number of settlers who have surrendered their Village Settlement leases and have become selectors under the *Land Act* 1901.

Monetary aid to the extent of £67,379 has been afforded to settlers by way of loans, but no advances have been made since 1903. At 30th June, 1913, £40,300 of the amount advanced had been repaid by the settlers.

Lands inquiry. At the Lands Inquiry Office, in addition to particulars regarding Crown lands, &c., available for settlement, a register is kept of suitable private farms for sale. These are classified according to value and utility. The list is comprehensive and embraces the whole State, and intending purchasers can inspect with confidence any of the properties submitted. No charge is made by the Government for any work done in this connexion.

Transfer of Land Act.

The "Torrens System," whereby persons acquiring possession of land may receive a clear title, was introduced into Victoria in 1862. The system was originated previously in South Australia by the late Sir R. R. Torrens, and has been the means of simplifying procedure in connexion with the transferring of land. It gives a title to the transferee free of any latent defect and cheapens the cost of dealing in real estate by reason of the simplicity of the procedure. All land parted with by the Crown since 1862 is under the operation of the Transfer of Land Act, and the Crown grant issues through the Titles Office; but to bring under the Act land that was parted with prior to that year, application must be made accompanied by strict proofs of the applicant's interest in the property. During 1912 there were submitted 685 applications to have brought under the Act land amounting to 28,403 acres in extent, and to £994,078 in value; whilst the land actually brought under the Act during the year by application was 68,260 acres valued at £1,270,061. Up to the end of 1912 there had been brought under the Act 2,822,762 acres valued at £56,144,536. The number of certificates of title issued in 1912 was 17,124.

Assurance fund.

When application is made to have land brought under the Transfer of Land Act, a contribution to the assurance fund of ½d. in the £1 on the value of the land is levied on the applicant, to assure and indemnify the Government in granting a clear title against all the world, as some other person may have a latent interest in the property, and it may be necessary for the Government to recompense such person out of the fund for the loss of his interest. The amount at credit of the fund at 1st July, 1911, was £183,046. Receipts during 1911-12 comprised contributions £3,628, interest on stock £2,845, and interest on £75,073 advanced for the purchase of land adjoining the Titles Office £3,003. The expenditure during the year comprised claims paid £151, and the balance at the credit of the fund on 30th June, 1912, was £192,371. The amount paid up to 30th June, 1912, as compensation and for judgments recovered, including costs, was £6,945, representing 38 claims.

Closer Settlement.

Closer Settlement.

Under the provisions of the Closer Settlement Acts, the Lands Purchase and Management Board is empowered to expend at the rate of £500,000 per annum in the purchase, for the Crown, of privately owned lands throughout the State, for subdivision into suitable allotments according to the class of the land, and for disposal by the Board to eligible applicants, as stated hereafter. Lands well adapted for settlement are thus made available in the established portions of the State, where railways, water supply, and markets are provided and roads and other facilities are good. These include

ordinary farming lands, some in a more or less improved condition, and areas in irrigated districts with plentiful supplies of water for irrigation. Only one allotment of the maximum value can be granted to any one person, and the principle of residence is a permanent condition in the title.

Every application for a Closer Settlement Allotment must be made on the prescribed form and lodged with the Secretary, Lands Purchase and Management Board, accompanied by the registration fee of 5s., a lease fee of £1, and a deposit (equal to 3 per cent. of the capital value of the land) which is deducted from the purchase money. The applicant is required to give evidence of suitability and fitness, &c., to occupy the land; if successful, a permit giving immediate possession is issued (followed by a lease as soon as practicable), and no further payment is required for six months. The deposit, less the 5s. registration fee, is at once returned to any unsuccessful applicant.

In addition to the provisions for the purchase of large estates for subdivision, the Closer Settlement Acts provide that any one or more persons who are eligible to acquire a farm allotment under the Closer Settlement Acts may enter into a provisional agreement with the owner of a block of private land for the purchase thereof, and acquire it through the Lands Purchase and Settlement Board. The value of the land must not exceed the maximum allowed under the Act unless two or more eligible persons agree to purchase same. Agreements, with full details, and an application, on the proper forms, must be filled in and lodged with the Lands Purchase and Management Board, together with a valuation fee of £4, when an inspection and valuation of the property will be made. The fee may be returned if, after a preliminary inspection, the Board does not approve of the application. Should the Board decide to acquire the land, the purchaser is required to deposit an amount not exceeding four half-yearly instalments, and is otherwise subject to all the provisions of the Closer Settlement Acts with regard to payments, permanent residence, improvements, &c.

Repurchased lands are disposed of as farm allotments, agricultural labourers' allotments, and workmen's home allotments under conditional purchase lease, the terms of which are briefly stated herein, but are more particularly described in each title as issued.

Conditional purchase leases are granted to successful applicants under the Closer Settlement Acts, and are for such a term not exceeding 31½ years as may be agreed upon between the lessee and the Board. The purchase money is payable by 63 or a less number of half-yearly

instalments. The deposit lodged with the application is credited as part of the principal, and the balance bears interest at 4½ per cent. Each instalment includes interest upon the balance of purchase money remaining unpaid, and is thus 3 per cent. half-yearly (6 per cent. per annum) of the capital value of the allotment (less the amount of the deposit). Payments in advance may be made at any time, at the option of the lessee, and a proportionate reduction of interest secured thereby.

In special cases, when a lessee is unable to meet the instalments of purchase money as they fall due, the Board has power to suspend such payments up to an amount not exceeding 60 per cent. of the value of the improvements effected by the lessee. Interest at the rate of 5 per cent. per annum is charged on the amount in arrears, or on any instalments which may have been suspended.

The lessee must reside on the allotment. Personal residence by the lessee's wife, or child over 18 years of age, or parent dependent for support, may, with the approval of the Board, be considered personal residence by the lessee. A farm lessee cannot transfer, assign, mortgage, or sublet the whole or any part of his allotment within the first six years of the lease. The Crown grant may be issued to the lessee at the end of any half-year after the first twelve years have expired, on payment of the balance of purchase money, and the residence condition may be fulfilled by any one approved by the Governor in Council.

Farm allotments.

Lands for farm allotments are subdivided into suitable areas not exceeding in value a maximum amount of £2,500; and no lease thereof can issue to a person who at the date of application is directly or indirectly the owner of any other land in Victoria (township land excepted) which, together with the allotment applied for, exceeds such value. Improvements of a permanent and substantial character must be effected by the lessee of a farm allotment to the value of at least two instalments of the purchase money before the end of the first year from the date of the lease, 10 per cent. of the purchase money before the end of the third year, and a further 10 per cent. before the end of the sixth year. Improvements must thus be made to the value of at least 20 per cent. of the total purchase money payable for the allotment; and if they are made in excess of requirements during either of the two earlier periods mentioned the excess is set off against the expenditure necessary by the end of the sixth year.

Agricultual labourers' allotments.

Agricultural labourers' allotments are made available in the vicinity of larger holdings, with the object of providing workmen for the farmer, and of providing small areas for agricultural labourers who in their spare time may work the allotments

with the aid of their families. Lands for agricultural labourers' allotments are subdivided into suitable areas not exceeding in value a maximum amount of £350, and no lease thereof can be granted to any person who, at the date of application, is directly or indirectly the owner of any other land in Victoria which, together with the allotment applied for, exceeds such value. Improvements required to be effected by the lessee of an agricultural labourer's allotment are the erection of a substantial dwelling-house of the value of at least £30 within one year from the date of the lease; and the enclosure of the allotment with a substantial fence within two years from the date of the lease. A lessee who has complied with conditions may, at any time, with the Board's consent, transfer, sublet, or mortgage his lease.

Workmen's home allotments.

Workmen's home allotments are made available near centres of population, and being of fair size comparatively, and away from congested areas, provide open surroundings. Only one residence or place of business is permitted to be erected on each allotment. Lands for workmen's home allotments are subdivided into suitable areas not exceeding in value a maximum amount of £250, and no lease thereof can be granted except to a person (*a*) who is engaged in some form of manual, clerical, or other work for hire or reward, and whose salary is not more than £220 per annum; (*b*) who at the date of application is not the owner (either directly or indirectly) of any other land in Victoria which exceeds in area one-eighth of an acre if township or suburban, or 50 acres if country land; and (*c*) whose real and personal estate does not exceed £350. Improvements required to be effected by the lessee of a workman's home allotment are as follows:—The allotment must be fenced, and a substantial dwelling-house of the value of at least £50 erected thereon within one year from the date of the lease, and additional improvements of a value of at least £25 must be made within two years from the date of the lease. A lessee who has complied with conditions may at any time transfer, mortgage, or sublet his allotment, subject to the Board's approval.

Advances to settlers.

The Closer Settlement Acts provide for Advances by the Lands Purchase and Management Board to settlers who are—

(*a*) Lessees under the *Closer Settlement Act* 1904, &c.
(*b*) Licensees of an agricultural or grazing allotment under the *Land Act* 1901.
(*c*) Licensees under Section 103 of the *Land Act* 1901 or corresponding sections of any repealed Act.
(*d*) Conditional purchase lessees under *Land Act* 1901; or
(*e*) Conditional purchase lessees under the *Murray Settlements Act* 1907.
(*f*) Selection purchase lessees under the *Land Act* 1911.
(*g*) Perpetual lessees under the *Land Act* 1901.

Advances of not more than £500, and not exceeding 60 per cent. of the value of improvements effected on the land, may be made during the first six years of the lease for the following purposes:—

1. The erection of dwelling-houses or outbuildings, or the effecting of other improvements.
2. Carrying on farming, grazing, agricultural and horticultural pursuits.

After six years the lessee or grantee may obtain an advance up to £1,000 on a 60 per cent. basis of the value of his improvements and the purchase money paid for the land. The amounts allowed by the Board to lessees under the Closer Settlement Acts towards the cost of erecting dwelling-houses and outbuildings are made on the following bases:—

For a farm allotment.—Not exceeding 10 per cent, of the value of the land; but, where the land is valued at less than £500, a maximum not exceeding £50.

For an agricultural labourer's allotment.—An amount not exceeding £50.

For a workman's home allotment.—Not exceeding £50 where the lessee is in intermittent employment, but where in permanent employment the advance may be £150. (In special areas within the Metropolitan district the Board has power to advance up to £250.)

Advances are repayable by equal half-yearly instalments, extending over a period fixed by the Board not exceeding twenty years, with interest at 5 per cent. per annum; but may be repaid at any time in whole or in part under a duly proportionate rebate of interest.

Wire netting advances.

Advances of wire netting may also be made under the Closer Settlement Acts to owners of land—

(*a*) if such land is held as above mentioned; or,
(*b*) if such land immediately adjoins any unoccupied Crown land or is not included in any municipality.

The wire netting supplied is No. 17 gauge, 1½-inch mesh, 42 inches wide, weighs 28 cwt. to the mile, and is supplied in rolls of not less than 100 yards. Each advance is limited to a quantity sufficient for 6 miles of vermin-proof fencing, and the price of the wire netting shall be deemed to be the amount of the advance (provided that where the wire netting is to be erected on a boundary fence between the land of the applicant and any unoccupied Crown land, or separated only by a public road therefrom, the price charged shall be only 50 per cent. of the value of such wire netting). The amount of the advance is repayable by a cash payment, or on terms over a period not exceeding ten years with interest at 4 per cent. per annum. No advance shall exceed 60 per cent. of the total value of the improvements on the land, and the maximum amount (inclusive of all other loans and advances, if any), must not exceed £500.

Estates purchased.

The following is a complete statement of all estates acquired by the Closer Settlement Board for the purposes of closer settlement at 30th June, 1913, including the estates acquired under the provisions of the Small Improved Holdings Act, the administration of which has been transferred to the Board.

CLOSER SETTLEMENT ESTATES AT 30TH JUNE, 1913.

Estates.	Area.*	Purchase Money including discount.	Price Paid Per Acre.	No. of Lessees.			Area Vacant and Available.
				Farm Allotments.	Workmen's Homes Allotments.	Agricultural Labourers' Allotments.	
	acres.	£	£ s. d.				acres.
Wando Vale ..	10,446	63,985	6 2 6	66	..	..	..
Walmer ..	13,769	44,751	3 5 0	42	..	..	..
Whitfield ..	4,247	36,096	8 10 0	36	..	..	..
Brunswick ..	91	2,896	29 0 0	..	55	..	..
Eurack	5,109	53,640	10 10 0	46	..	..	..
Footscray ..	31	2,486	80 0 0	..	86	..	..
Dal Campbell ..	45	2,358	47 8 0	..	63.	..	..
Springvale ..	3,396	25,895	7 12 6	21	..	..	..
Mernsie	10,028	57,159	5 14 0	44	..	..	..
Richmond Vale ..	1,851	11,000	8 11 6	12	..	..	185
Overnewton ..	11,336	71,492	6 4 6	68	..	3	..
Wyuna	23,016	120,876	5 5 0	123	..	10	155
Restdown ..	17,894	60,391	3 7 6	54	..	..	..
Strathkellar ..	10,227	74,150	7 5 0	56	..	6	..
Bona Vista ..	2,060	28,832	14 0 0	29	1	3	517
Cadman's ..	18	844	50 0 0	..	42	..	..
The Willows ..	400	5,131	10 6 6	4	..	..	..
Ercildoune ..	1,200	12,199	10 2 6	11	..	..	..
Greenvale ..	304	7,298	24 0 0	4	..	..	99
Lara	8,329	45,825	5 10 0	34	..	7	..
Tandarra ..	4,558	21,083	4 12 6	18	..	..	..
Dura	337	3,200	9 13 4	7	..	..	..
Exford	8,054	64,039	8 0 0	49	..	5	..
Colbinabbin ..	19,164	110,198	5 17 6	86	..	..	..
Pirron Yaloak ..	1,058	23,796	22 7 6	12	..	..	241
Numurkah ..	2,360	18,901	8 0 0	17	..	..	..
Allambee ..	5,023	31,779	6 6 4	13	..	..	3,050
Pender's Grove ..	233	23,327	100 0 0	..	140	37	21
Phœnix ..	23	968	40 0 0	..	47	..	..
Keayang ..	1,494	14,966	10 0 0	12	..	..	512
Werneth ..	6,588	31,043	4 15 0	21	..	..	..
Staughton Vale ..	9,857	66,466	6 15 0	46	..	..	..
Glen Huntly ..	74	7,040	94 0 0	..	155	..	..
Hogan's ..	444	6,197	14 0 0	9	..	..	..
Balure	183	1,463	8 0 0	10	..	..	..
Wein Wein Gurk ..	3,021	8,684	2 17 6	13	..	..	..
Inverary ..	1,260	7,548	6 0 0	24	..	..	..
Springs	398	2,290	5 15 0	8	..	..	..
The Heart ..	3,793	56,322	14 12 2	46	..	..	..
Condah	157	1,725	..	..	..	..	..
Mackey	1,078	20,634	..	..	..	..	..
Moorallá ..	17,199	60,197	3 10 0	27	..	..	626
Maribyrnong ..	1,112	10,842	9 15 0	12	2	..	..
Moyhu	2,417	19,528	8 0 0	8	..	..	1,086
†Murrabit ..	387	2,343	6 0 0	..	..	..	358
†Kyabram ..	1,151	15,724	13 10 0	8	..	..	592
Kenilworth ..	18,440	55,321	3 0 0	30	..	10	1,756
†Shepparton ..	9,083	131,379	various	173	..	42	1,723
Doogalook ..	4,640	29,002	6 5 0	17	..	..	..
Allendale ..	1,108	9,728	9 1 0	7	..	..	..
Warrnambool ..	46	1,188	25 10 8	..	25	..	..
Maddingley ..	13	1,300	100 0 0	..	8	5	..
Leongatha ..	53	1,325	25 0 0	3	..	..	..

* The area given is that to the nearest acre, and in some cases includes Crown lands transferred to the Board without purchase.

CLOSER SETTLEMENT ESTATES AT 30TH JUNE, 1913—*continued.*

Estates.	Area.*	Purchase Money including discount.	Price Paid Per Acre.	No. of Lessees.			Area Vacant and Available.
				Farm Allotments.	Workmen's Homes Allotments.	Agricultural Labourers' Allotments.	
	acres.	£	£ s. d.				acres.
Mortlake ..	2,350	10,945	4 13 1	8	3	17	..
Dowling Forest ..	225	1,350	6 0 0	..	15	2	..
Geelong ..	3	300	100 0 0	..	10	..	..
Bellarine ..	204	5,508	26 15 0	5	..	..	73
Daylesford ..	70	2,995	42 5 2	16	..	..	..
Highton ..	425	11,180	26 0 0	11	..	..	192
Belmont ..	113	3,191	28 0 0	17	..	..	..
Mordialloc ..	460	7,946	17 1 6	38	..	..	22
Thomastown ..	581	11,343	19 5 6	31	..	..	..
Wangaratta ..	796	9,802	12 3 4	26	..	..	457
Warragul ..	98	2,063	21 0 0	9	..	..	8
Geelong (Newtown)	157	1,955	12 9 1	8	..	..	9
Werribee ..	21,949	285,928	13 0 0	44	..	..	9,529
†Koonong Wootong	10,181	104,363	10 3 0	79	..	7	33
Cornelia Creek ..	37,036	177,678	4 15 0	128	..	10	2,208
‡Bamawm ..	13,527	124,334	various	136	..	15	2,877
Meadowbank ..	313	9,088	29 0 0	5	..	..	..
Werribee Police Paddock	55	1,650	30 0 0	..	16	..	..
Oaklands ..	8,069	26,309	3 5 0	6	..	..	4,129
Hurstwood ..	6,493	31,311	4 15 0	8	..	..	1,510
Eumeralla ..	10,034	57,570	5 13 7	23	..	7	3,573
Morven ..	8,029	39,533	4 17 6	18	..	..	2,380
Mt. Widderin ..	8,300	48,634	5 15 6	17	..	..	2,592
Tooronga ..	101	17,675	178 4 4	..	172	..	3
Nerrin Nerrin ..	6,802	58,445	8 10 0	17	..	..	2,930
‡Swan Hill ..	5,409	63,188	various	61	..	..	1,128
‡Cohuna ..	11,754	117,071	,,	98	..	7	2,176
Sec. 6—Purchases	38,079	229,183	,,	173	..	..	1,292
‡Cremona ..	1,292	20,140	,,	7	..	..	500
Tongala ..	15,228	172,395	,,	161	..	17	3,098
Westmere ..	934	9,418	10 0 0	..	..	..	..
Glenaladale ..	2,109	28,787	13 10 0	17	..	..	..
Deepdene ..	2,985	35,742	12 0 0	16	..	..	176
Boisdale ..	2,521	72,174	various	35	..	..	900
Nanneella ..	9,303	86,124	,,	93	..	12	1,856
Panoo	15,102	98,455	,,	37	..	..	3,596
Marathon and Willow Grove	14,783	58,752	,,	22	..	..	4,013
Dunrobin ..	18 814	119,779	6 6 0	54	..	23	..
Kilmany ..	8,746	106,080	12 0 0	55	..	..	1,762
Waubra ..	47	1,042	22 10 0	..	..	11	7
Nathalia ..	30	361	12 0 0	..	..	5	..
‡Echuca ..	2,753	24,845	9 0 0	..	..	..	..
‡Bonshaw ..	3,640	36,603	10 0 0	..	..	..	..
‡Stanhope ..	3,377	33,966	10 0 0	..	..	..	..
‡Girgarre ..	4,828	48,558	10 0 0	..	..	..	..
‡Robgill ..	2,462	29,213	11 15 0	..	..	..	..
‡Lauderdale ..	3,635	45,886	12 15 0	..	..	..	..
‡Dingee.. ..	472	4,160	8 14 6	..	..	..	..
‡Murrabit ..	2,011	13,537	6 11 10	..	..	..	..
Wharparilla ..	482	4,297	8 16 6	..	..	..	..
Werribee ..	1,265	16,445	13 0 0	..	..	..	..
Shepparton ..	643	9,207	14 6 5	..	..	..	..
Swan Hill ..	1,469	8,529	5 16 1	..	..	..	..
Kyabram ..	4,402	52,564	11 18 10	..	..	..	..
Total ..	563,554	4,184,447	..	2,805	840	261	64,550

* The area given is that to the nearest acre, and in some cases includes Crown lands transferred to the Board without purchase.

† This estate is the only area so far acquired under the compulsory clauses of the Act.

‡ Under the Closer Settlement Act of 1912 the purchase and administration for six years of the estates in the irrigable districts were vested in the State Rivers and Water Supply Commission. (Such estates are indicated by the sign ‡).

Altogether the Board has 108 properties, with a total area of 563,554 acres, but of these, 13 estates, comprising in all 31,439 acres, were not available for occupation at 30th June last. The remaining estates having a total area of 532,115 acres, were occupied by 3,906 conditional purchase lessees, and contained 64,550 acres available for occupation.

Extent of Closer Settlement.

The extent of the settlement effected by the Board at 30th June, in each year 1909 to 1913 respectively, is summarized in the next statement.

CLOSER SETTLEMENT HOLDINGS OCCUPIED AND VACANT.

	At 30th June.				
	1909.	1910.	1911.	1912.	1913.
In occupation—					
Number of Holdings ...	1,792	1,880	2,708	3,354	3,906
Area ... acres	196,573	235,938	312,794	407,206	438,321
Resident Population ...	5,608	6,360	10,000	13,400	16,000
Vacant and available for occupation—					
Area..... acres	...	9,302	54,214	71,367	64,550
Allotments—					
Farm	42	33	...	...	...
Workmen's Homes ...	106	104	...	...	...
Agricultural Labourers ...	...	47	...	..	...

The sum of £972,550 had been repaid to the Closer Settlement Fund up to 30th June, 1913. Of this amount £552,628 has been transferred to revenue to meet interest due to stockholders, and £404,833 has been utilized for redemption and cancellation of stock and for capital and working expenditure, the balance to the credit of the fund on 30th June, 1913, being £15,089. The balance of unredeemed stock is now £4,341,606, on which the interest payable amounts to £153,120 per annum.

Up to the 30th June, 1913, 2,352 applications for advances aggregating £388,655 had been approved, and the money advanced upon the improvements actually effected by the lessees which were valued at a bedrock estimate of over £500,000.

Small improved holdings

Under the *Closer Settlement Act* 1909 (No. 2) the administration of the *Small Improved Holdings Act* 1906 was placed in the hands of the Closer Settlement Board, subject to the Minister. The particulars of estates dealt with under the latter Act are shown in the table on page 632, relating to closer settlement estates at 30th June, 1913.

Water Supply and Irrigation.

Victorian Waterworks are all controlled by official bodies, either State or local, and the following table summarizes those waterworks on which the Government has expended or advanced moneys. It is practically a summary of all waterworks in the State, although there are minor works constructed by municipalities out of municipal funds. Victorian Waterworks.

Waterworks—Capital Expenditure and Advances by State to 30th June, 1912.

Controlling Bodies.	Purposes of Supply.	Storage Capacity of Reservoirs.	Capital Expenditure and Advances by State.
		Gallons.	
State Rivers and Water Supply Commission—			
Coliban System	Domestic and Mining	8,825,037,000	1,203,961
Broken River Works ...	Stock and Domestic	...	14,853
		Acre feet.	
Goulburn-Waranga ...	Irrigation, &c. ...	218,090	1,320,503
North west (Kerang) Lakes	Stock and Domestic	91,830	9,587
Kow Swamp Works ...	Irrigation, &c. ...	40,860	183,953
Loddon River Works ...	" " ...	14,000	167,251
		Cubic feet.	
Lake Lonsdale Reservoir ...	Stock and Domestic	1,981,000,000	49,054
Lower Wimmera Compensation Works	" " ...	125,000,000	8,558
Long Lake Pumping Works	" " ...	160,000,000	27,346
		Acre feet	
Pyke's Creek and Werribee Scheme	Irrigation, &c. ...	14,850	80,176
		Cubic feet	
Irrigation and Water Supply Districts (18) ...	" " ...	...	1,318,900
Waterworks Districts (9) ...	Stock and Domestic	171,500,000	777,177
First Mildura Irrigation and Water Supply Trust ...	Irrigation	...	80,500
		Gallons.	
Waterworks Trusts (88) ...	Stock and Domestic	914,405,000	1,089,477
Municipal Corporations (28)...	" " ...	1,654,189,000	694,158
Abolished Irrigation and Water Supply Trusts (8) ...	Irrigation	...	31,953
Miscellaneous Expenditure ...	... ...	...	122,021
Melbourne and Metropolitan Board of Works	Domestic	6,559,000,000	4,140,919
Geelong Waterworks and Sewerage Trust	"	1,402,157,000	523,357
Total	... ...	...	11,843,704

Of the expenditure given in the case of the Melbourne waterworks, £3,189,934 represents money borrowed by the State, £1,501,271 of which has been redeemed—£800,000 out of consolidated revenue, and £701,271 by payments from the Melbourne and Metropolitan Board of Works, to which body the waterworks were transferred in

1891. The balance, £1,688,663, represents the loan liability to the State of the Melbourne and Metropolitan Board of Works on 30th June, 1912. Further particulars relating to this Board will be found on page 251, Part IV., of this work.

The Geelong Waterworks were sold by the Government to the Geelong Municipal Waterworks Trust on 25th January, 1908 for £265,000, in addition to which amount the expenditure shown in the above table includes the outstanding State loan liability on account of the works, viz., £190,082, and the capital expenditure by the Trust since acquiring the works, viz., £68,275.

Advances and expenditure for waterworks.

The succeeding table summarizes the amounts disbursed on State works and those granted and lent to local bodies by the State on account of waterworks. In addition to free grants large sums have been written off the liabilities of the local bodies.

CAPITAL EXPENDITURE AND LOANS FOR WATERWORKS.

—	Expenditure and Advances by State.	Interest Capitalized.	Free State Grants.	Capital Written Off.	Payments towards Redemption.	Amount standing at Debit, 30th June, 1912.
	£	£	£	£	£	£
State Works	3,065,242	..	2,798*	..	..	3,065,242
Irrigation and Water Supply Districts (18)	1,288,527	..	30,373	575,152	11,484	701,891
First Mildura Irrigation and Water Supply Trust ..	80,500	..	..	..	..	80,500
Waterworks Districts (9) ..	745,705	..	31,472	139,927	23,879	551,399
Waterworks Trusts (88) ..	1,046,392	6,871	36,214	130,989	78,468	843,806
Geelong Water Supply Works	455,082	..	..	..	265,000	190,082
Municipal Corporations (19)	640,636	43,633	..	165,870	99,727	418,672
,, (9)	9,543	346	..	..	9,889	..
Melbourne and Metropolitan Waterworks System ..	3,189,934	..	..	..	1,501,271	1,688,663
Abolished Trusts (8) ..	31,710	..	243	31,680	30	..
Miscellaneous	122,021	..	..	..	..	122,021
Total	10,675,292	50,850	101,100	1,073,618	1,989,748	7,662,776

* Originally grants to Waterworks Trusts, the works on which spent having been taken over by the State.

In addition to the capital written off, as shown above, arrears of interest amounting to £579,786 have also been written off certain liabilities to the State, viz., £342,773 from the liabilities of what were originally Irrigation and Water Supply Trusts, £85,556 from the liabilities of Waterworks Trusts, and £151,457 from the liabilities of Municipal Corporations. Thus the amount actually written off the liabilities of the Trusts (Irrigation and Waterworks) and Corporations is £1,653,404. Interest outstanding at 30th June, 1912, amounted to £42,204, viz., £16,885 against the First Mildura Trust, £15,970 against Waterworks Trusts, and £9,349 against Municipal Corporations.

State Rivers and Water Supply Commission.

The *Water Act* 1905, which came into operation on 1st May, 1906, consolidates and amends the laws relating to the conservation and supply of water, and declares the law relating to certain rights in natural waters, and the property in the beds and banks containing the same. This Act is administered by the State Rivers and Water Supply Commission, consisting of three Commissioners, whose functions thereunder were principally administrative and advisory—the general construction of works on the part of the State being imposed on the Department of Water Supply. All State waterworks were vested in the Commission, and the property, powers, and duties vested in or imposed upon the Commissioners of Irrigation and Water Supply Trusts, with the exception of the First Mildura Irrigation and Water Supply Trust, were transferred to and vested in the Commission. The powers and duties of the Commission under this Act embrace the making and levying of rates and charges for the supply of water; the carrying out of surveys necessary to ascertain the nature and extent of the water supply and water storage resources of the State; determining the means and cost of improving such resources, and of improving and extending works for the conveyance and distribution of water throughout the State, and deciding as to the areas capable of being profitably supplied with water from such works; determining the extent, character, and quality of lagoon, swamp, and marsh lands within the State, the cost of works for their drainage and improvement, and the benefits to be derived from such improvement; preparing proposals for the construction of works of water supply or reports upon proposed works of water supply; the systematic gauging and recording of the volume and flow of rivers and streams, and of the volume of lakes and lagoons within the State, and the effect of climatic conditions thereupon; boring and other explorations for ascertaining the existence and location of subterranean waters, and the character and quality thereof; recording, publishing, and making available for general information the results of all such surveys, gaugings, borings, and other explorations; instructing the occupiers of lands in irrigation and water supply districts in the best methods of irrigated culture, and of the utilization of water as applied to agriculture, also in general rural economy; ascertaining and recording from time to time the extent of land under irrigation in the several irrigation and water supply districts, and the nature of the crops grown in and the products of such districts; and promoting the discussion of matters of general interest among the settlers in the irrigation and water supply districts by public conferences.

The *Water Act* 1905.

The *Water Act* 1909.

Comprehensive amendments of the *Water Act* 1905 were made by the passing of the *Water Act* 1909. The latter Act extends the authority of the State Rivers and Water Supply Commission by giving it the general construction of works formerly intrusted to the Department of Water Supply, so that the duties of the Commission are now constructive as well as administrative and advisory. This extension of authority has been effected by making the Department of Water Supply a part of the Water Commission, and by imposing on the Commission all the duties formerly performed by the Water Supply Department. These include in addition to the construction of works the oversight of loans to Waterworks Trusts.

A change in the basis of the compulsory charge for water is another of the important amendments. Under the 1905 Act the charge for irrigation water was based on land values, being one-fifth of the net annual value of land commanded by irrigation works, from which one-half to three-fourths of the water allotted was supplied as a right. Under that Act the price of water varied with the quantity allotted as a right and with the price of land. Under the new Act (1909) the charge for water is based on the cost of supplying it, and includes 4 per cent. on the capital debt for interest, 2 per cent. on the original capital debt for liquidation or redemption fund, and in addition to these two the sum required to pay operation and maintenance expenses.

Water is now sold by measure, and the price of an acre foot of water is fixed, so that if all the water assigned is sold it will meet the entire running expenses of the district. From one-half to three-fourths of the water assigned is apportioned as a right, and the charge for this right is made compulsory. The remainder of the water is sold on demand or under contract. Surplus or flood waters supplied outside of the irrigation season are sold at a less rate.

For several years the Commission has experienced great difficulty in inducing land-owners in waterworks districts to build storage tanks or dams of sufficient size to hold the year's supply, which are required in the interests of economy, and which will be still more necessary as the service from the present works is extended. The new Act provides that where land-owners neglect or refuse to build tanks of sufficient capacity the Commission may build them and collect the cost thereof from the land-owners

Another of the amendments provides for temporary diversions of water. Under the old Act there was provision for granting licences or permits up to fifteen years, but the preliminary steps were expensive. The new Act contains a simpler procedure for yearly permits.

By the amendment of the Closer Settlement Acts made in 1912 the Commission has been placed in control of the purchase, subdivision, and closer settlement of lands in the irrigated areas. The Commission also controls the instructing of occupiers of lands in irrigation and water supply districts.

The Flood Protection Acts passed in 1911 and 1912 place with the Commission the control and management of existing levee works and construction of new works for protection of extensive areas of valuable land in the Goulburn Valley from flooding by the Goulburn River. These Acts also provide for the constitution of districts and construction of works for like purposes in other parts of the State.

The various waterworks and districts vested in the Commission and their capital debit at 30th June, 1912, are set forth in the following statement:—

WATERWORKS UNDER CONTROL OF STATE RIVERS AND WATER SUPPLY COMMISSION.

(*a*) *Free Head-works.*	Capital Debit at 30th June, 1912.
	£
Broken River Works	14,853
Goulburn River Works	731,201
Kerang North-west Lakes Works	9,587
Kow Swamp Works	183,953
Lake Lonsdale Reservoir	49,054
Loddon River Works	167,251
Long Lake Pumping Works	27,346
Lower Wimmera Compensation Works	8,558
Total—Free Head-works	1,191,803

(*b*) *Waterworks Districts.*	Balance at Debit, 1st July, 1908.	Capital Expenditure since 1st July, 1908.	Balance at Debit, 30th June, 1912.	
	£	£	£	
Birchip	8,560	72,463	141,040	
Sea Lake	49,286			
Wycheproof	10,731			
Karkarooc	15,151	32,604	47,755	
Long Lake (free head-works excluded)	7,752	28,721	36,473	
Western Wimmera	74,575	18,829	93,404	
Wimmera United	110,568	8,777	119.345	
Coliban	1,171,622	32.339	1,203,961	
Tyntynder	..	13,097	13,097	
Wonthaggi	..	57,088	57,088	
Wimmera Main Channels ..	..	43,697	43,697	
Total	1,448,245	307,615	1,755,860	1,755,860

WATERWORKS UNDER CONTROL OF STATE RIVERS AND WATER SUPPLY COMMISSION—*continued.*

	Balance at Debit, 1st July, 1908.	Capital Expenditure since 1st July, 1908.	Balance at Debit, 30th June, 1912.	Capital Debit at 30th June, 1912.
(c) *Irrigation and Water Supply Districts.*	£	£	£	£
Bacchus Marsh	5,257	20,879	26,136	
Bamawm	..	33,851	33,851	
Boort	17,286	216	17,502	
Campaspe	8,710	4,198	12,908	
Cohuna	28,619	27,242	55,861	
Deakin	33,477	34,470	67,947	
Dry Lake	719	..	719	
Gannawarra (previously part of Cohuna)	21,099	16,392	37,491	
Kerang	34,020	3,880	37,900	
Koondrook	14,712	47,563	62,275	
Koyuga	..	18,028	18,028	
Nanneella	..	19,715	19,715	
Nyah	..	20,270	20,270	
Rodney	68,584	107,317	175,901	
Shepparton	..	11,734	11,734	
Swan Hill	4,695	23,142	27,837	
Tragowel Plains	34,870	379	35,249	
White Cliffs (including small portion of proposed Waterworks District)	..	40,567	40,567	
Total	272,048	429,843	701,891	701,891
(d) *New Works* (to be apportioned to Irrigation and Water Supply Districts benefited).				
1. Goulburn Main Channels—				
East Goulburn	...	139,544	139,544	
Waranga Reservoir to Campaspe	...	240,645	240,645	
Campaspe to Serpentine ...	...	181,754	181,754	
Main Distributary Channels ...	...	27,359	27,359	
				589,302
2. Pyke's Creek and Werribee Scheme	...	80,176	80,176	
				80,176
(e) *Waterworks Trusts Districts.**				
Avoca Waterworks Trust ...	...	...	5,563	
Carrum Waterworks Trust ...	...	...	16,863	
Loddon United Waterworks Trust	...	...	18,291	
Grand Total ...	...	...	...	4,319,032

*In consequence of the undermentioned Trusts having made default in the payment of interest on loans, their districts have been temporarily placed under the Commission's control.

The receipts and disbursements of the State Rivers and Water Supply Commission during the year ended 30th June, 1912, were as follows:—

STATEMENT OF RECEIPTS AND EXPENDITURE, 1911-12.

Works.	Receipts.	Expenditure.			Excess.	
		Total from Annual Votes.	On Capital Works from Annual Votes.	Net Expenditure on Management and Maintenance.	Revenue over Net Expenditure.	Net Expenditure over Revenue.
	£	£	£	£	£	£
Coliban	38,351	12,596	1,497	11,099	27,252	..
Goulburn	160	2,597	..	2,597	..	2,437
Loddon River ..	7	323	..	323	..	316
Kow Swamp ..	266	1,984	..	1.984	..	1,718
Broken River ..	7	199	..	199	..	192
North-West Lakes ..	355	529	..	529	..	174
Lake Lonsdale ..	71	247	..	247	..	176
Lower Wimmera ..	..	820	..	820	..	820
Irrigation Districts ..	58,186	40,430	3,675	36,755	21,431	..
Waterworks Districts ..	49,502	26,081	218	25,863	23,639	..
Licences, Diversions, Pumping, &c. ..	5,915	2,781	..	2,781	3,134	..
	152,820	88,587	5,390	83,197	69,623	..
Not Earning Revenue.						
River Gaugings, Surveys and Reports, New Projects	...	4,870	...	4,870	...	4,870
Waterworks Trusts—Administration ...	...	1,563	...	1,563	...	1,563
Land Settlement—Services by Commission	...	2,571	...	2,571	...	2,571
Loan Works—Services on account of, defrayed from Votes ...	...	2,321	...	2,321	...	2,321
Total ...	152,820	99,912	5,390	94,522	58,298	...

NOTE.—This table does not take into consideration the question of interest, redemption and depreciation.

Areas irrigated

The extent to which the different crops were watered, and the actual areas irrigated in the different districts of the State during the year 1911-12, are set forth in the next statement.

IRRIGATION—AREAS OF CROPS WATERED, 1911-12.

Districts.	Areas under Irrigation.						
	Cereals.	Lucerne grown for Pasture and Hay.	Sorghum and other Annual Fodder Crops.	Pastures.	Vineyards, Orchards, and Gardens.	Fallows, &c.	Total.
Supplied from Goulburn State Works.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Rodney	5,297	17,247	720	15,414	4,181	2,577	45,436
Deakin	859	2,119	379	4,563	99	1,174	9,193
Shepparton	116	1,220	84	268	215	200	2,103
Koyuga	12	217	84	288	9	252	862
Nanneella	..	393	111	836	31	210	1,586
Campaspe	..	8	..	38	1	..	47
Bamawm	..	879	274	1,142	47	414	2,756
Tragowel Plains	2,348	122	218	12,023	..	46	14,757
Total	8,632	22,210	1,870	34,572	4,583	4,873	76,740
Supplied from Kow Swamp State Works.							
Dry Lake	..	..	..	370	6	..	376
Kerang	4,368	923	2,041	6,434	13	116	13,895
Total	4,368	923	2,041	6,804	19	116	14,271
Supplied from Loddon State Works.							
Boort	2,258	612	870	2,974	71	16	6,801
Tragowel Plains	10,836	172	937	2,673	64	..	14,682
Total	13,094	784	1,807	5,647	135	16	21,483
Supplied from other State Works.							
Bacchus Marsh	..	1,067	71	539	36	9	1,722
Campaspe	100	455	8	60	12	..	635
Cohuna	1,979	4,103	1,092	12,000	260	283	19,717
Gannawarra	2,710	790	1,225	3,656	35	11	8,427
Koondrook	7,986	542	889	9,430	104	651	19,602
Nyah	615	178	206	176	385	463	2,023
Swan Hill	2,250	2,856	1,340	2,149	164	270	9,029
Western Wimmera	..	30	30	25	938	..	1,023
White Cliffs	1,466	450	469	..	2,479	..	4,864
Total	17,106	10,471	5,330	28,035	4,413	1,687	67,042
Lands supplied from Kerang North-west Lakes	4,100	621	1,297	7,525	..	..	13,543
Lands supplied directly from Kow Swamp State Works ..	697	1,459	221	513	201	33	3,124
First Mildura	840	617	..	..	9,922	..	11,379
Supplied from Coliban State Works	132	265	225	327	1,796	192	2,937
Private Diversions in Kerang District	3,033	125	161	1,435	..	60	4,814
Grand Totals, 1911–12 ..	52,002	37,475	12,952	84,858	21,069	6,977	215,333
Grand Totals, 1910–11 ..	37,905	25,432	9,527	49,693	17,606	2,694	142,857
Grand Totals, 1909-10 ..	23,715	24,124	8,094	50,541	17,524	5,773	129,771
Grand Totals, 1908-9 ..	42,418	27,254	10,174	72,120	17,653	7,254	176,873
Grand Totals, 1907-8 ..	54,930	32,185	13,896	108,871	15,694	6,436	232,012

The extent of land under irrigated culture in 1911-12, 215,333 acres, represents an increase of 72,476 acres over the area irrigated in the previous year, but a decrease of 16,679 acres when compared with that irrigated in 1907-8. An analysis of the areas watered

reveals that, during 1911-12, 39.4 per cent. of the total was devoted to pastures, 24.2 per cent. to cereals, 17.4 per cent. to lucerne, 9.8 per cent. to vineyards, orchards, and gardens, 6 per cent. to annual fodder crops, and 3.2 per cent. to fallows, &c. In addition to the area shown in the table, 14,500 acres were watered in 1911-12 under yearly permits granting authority to divert water from streams throughout the State. The area of country lands within the State artificially supplied with water for domestic and ordinary use and for watering stock was, approximately, 13,000,000 acres. The number of separate towns supplied, exclusive of Melbourne and suburbs, is 135, the population served being about 280,000.

Waterworks Trusts.

The extent of Government assistance to the Waterworks Trusts which are not under the control of the State Rivers and Water Supply Commission, and the financial position of such Trusts are exhibited below.

WATERWORKS TRUSTS—CAPITAL INDEBTEDNESS AND INTEREST OUTSTANDING, 30TH JUNE, 1912.

Waterworks Trusts.	Cost of Works at 30th June, 1912, defrayed from—		Capital Indebtedness.				Interest Outstanding at 30th June, 1912.
			Increased by Interest Capitalized.	Reduced by—		At 30th June, 1912.	
	Free State Grant.	Loan Advances made by State.		Amounts Written Off.	Payments towards Redemption.		
	£	£	£	£	£	£	£
Alexandra.. ..	..	3,509	..	..	204	3,305	66
Avenel	..	2,383	..	..	213	2,170	..
Avoca *	2,662	8,709	..	2,494	652	5,563	111
Avoca Township ..	..	9,500	..	..	..	9,500	260
Bairnsdale ..	..	43,508	..	23,439	813	19,256	382
Ballan	..	1,100	..	..	252	848	17
Benalla	..	15,579	..	..	3,061	12,518	250
Bet Bet Shire ..	1,384	5,694	..	..	1,238	4,456	..
Boort	28	1,150	..	150	67	933	..
Bright	..	2,990	..	..	348	2,642	52
Broadford	..	11,000	..	..	..	11,000	587
Carisbrook ..	..	8,400	..	2,400	318	5,682	176
Carrum*	..	25,733	..	7,732	1,138	16,863	337
Charlton	2,840	7,877	..	887	192	6,798	175
Cobram	..	4,500	..	..	278	4,222	84
Colac	..	42,261	..	..	165	42,096	828
Dandenong ..	..	19,128	..	5,128	678	13,322	196
Daylesford Borough ..	..	24,206	2,794	3,139	1,925	21,936	438
Donald	3,058	6,816	..	1,166	363	5,287	..
Donald Shire ..	1,691	4,353	..	..	1,209	3,144	..
Echuca Borough ..	..	13,150	..	..	1,353	11,797	475
Elmore	..	4,000	..	..	424	3,576	72
Euroa	..	17,242	..	..	1,712	15,530	..
Geelong Municipal † ..	..	..	..	..	..	..	..
Gisborne	..	4,668	..	..	959	3,709	..
Glenrowan ..	..	482	..	..	..	482	3
Hamilton	..	44,668	..	..	2,212	42,456	833
Healesville ..	..	4,661	..	..	587	4,074	..
Heathcote.. ..	..	8,480	..	..	569	7,911	158
Horsham Borough ..	..	30,713	..	7,712	761	22,240	444
Kara Kara Shire ..	1,522	9,447	..	..	547	8,900	..
Kerang	88	8,348	..	..	195	8,153	422
Kerang Shire ..	213	1,200	..	..	70	1,130	23
Kilmore	..	14,148	..	..	2,119	12,029	240
Koroit	..	5,502	..	2,047	648	2,807	56
Korumburra ..	..	11,492	..	..	1,283	10,209	204

(For footnotes, see end of table.)

WATERWORKS TRUSTS—CAPITAL INDEBTEDNESS AND INTEREST OUTSTANDING, 30TH JUNE, 1912—*continued.*

Waterworks Trusts.	Cost of Works at 30th June, 1912, defrayed from—		Capital Indebtedness.				Interest Outstanding at 30th June, 1912.
			Increased by Interest Capitalized.	Reduced by—		At 30th June, 1912.	
	Free State Grant.	Loan Advances made by State.		Amounts Written Off.	Payments towards Redemption.		
	£	£	£	£	£	£	£
Kowree	292	2,707	..	..	183	2,524	..
Kyabram	..	2,811	..	..	156	2,655	53
Kyneton Shire ..	..	31,345	..	..	14,618	16,727	334
Lancefield ..	..	7,082	..	..	564	6,518	130
Lawloit	1,302	12,095	..	..	782	11,313	226
Leongatha ..	..	8,459	..	..	261	8,198	..
Lilydale	..	6,384	..	..	220	6,164	124
Loddon United* ..	4,122	21,334	..	1,717	1,326	18,291	366
Longwood	..	2,400	..	550	119	1,731	35
Lowan Shire ..	1,258	11,680	..	..	754	10,926	218
Macedon	..	2,824	..	..	232	2,592	52
Mansfield	..	7,931	..	..	917	7,014	140
Maryborough ..	..	76,257	..	9,200	4,454	62,603	..
Mooroopna ..	..	3,368	..	1,400	120	1,848	32
Murchison	..	2,800	..	..	213	2,587	..
Murtoa	..	3,235	..	..	34	3,201	..
Nagambie ..	..	3,275	..	..	408	2,867	58
Nhill	799	10,318	..	2,482	489	7,347	147
Numurkah Shire ..	1,278	23,394	..	1,376	3,392	18,926	378
Omeo	..	3,982	..	..	425	3,557	143
Pyramid Hill ..	..	2,137	..	..	44	2,093	42
Riddell's Creek ..	..	4,050	..	497	199	3,354	67
Rochester	..	2,724	..	..	166	2,558	54
Romsey	..	4,700	..	..	953	3,747	75
Rushworth ..	..	4,500	..	..	213	4,287	..
Rutherglen ..	..	21,521	..	..	1,076	20,445	..
Seymour	..	27,959	..	..	2,202	25,757	514
Shepparton Urban ..	24	19,530	..	2,416	1,898	15,216	304
Shepparton Shire ..	110	16,603	..	1,376	1,460	13,767	276
St. Arnaud Borough	57	43,223	4,077	15,077	1,724	30,499	1,225
Stawell Shire ..	545	1,370	..	250	1,120	..	..
Sunbury	..	16,497	..	..	113	16,384	460
Swan Hill	231	5,224	..	..	212	5,012	88
Swan Hill Shire‡ ..	6,421	36,043	..	36,043	..	..	..
Tallangatta ..	..	4,328	..	..	105	4,223	..
Tatura	..	4,467	..	650	323	3,494	60
Traralgon	..	14,661	..	..	248	14,413	288
Trentham	..	3,233	..	..	..	3,233	16
Tungamah Shire ..	4,130	17,140	..	..	864	16,276	325
Upper Macedon ..	..	2,290	..	..	347	1,943	..
Violet Town ..	..	5,750	..	..	296	5,454	..
Wangaratta ..	..	9,889	..	..	415	9,474	..
Warracknabeal ..	262	5,936	..	..	533	5,403	106
Warragul	..	15,714	..	..	171	15,543	310
Warrnambool ..	..	38,500	..	..	2,433	36,067	1,449
West Charlton ..	..	2,822	..	..	68	2,754	..
Winchelsea Shire ..	..	5,689	..	..	289	5,400	108
Wodonga	..	7,722	..	..	499	7,223	145
Woodend	..	10,563	..	..	2,267	8,296	163
Yarram	..	2,082	..	..	61	2,021	41
Yarrawonga Urban ..	1,897	8,800	..	..	1,485	7,315	294
Yatchaw	..	6,262	..	1,661	297	4,304	86
Yea	..	3,885	..	..	167	3,718	149
Total ..	36,214	1,046,392	6,871	130,989	78,468	843,806	15,970

* The property of this trust has been taken possession of by the State Rivers and Water Supply Commission, as provided by sections 277 and 278 of the *Water Act* 1905, section 10 of Act No. 1994, and section 36 of Act No. 2226.

† The Geelong Municipal Trust loan was not obtained from the Government.

‡ This trust was abolished under the provisions of the *Water Act* 1905

The free State grant to Waterworks Trusts for the construction of headworks was originally £100,000, but owing to the transfer of works, portion of the grant now appears against Irrigation districts and other State works.

The following return contains full particulars of the receipts and expenditure of the Waterworks Trusts during the year ended 31st December, 1912 :—

WATERWORKS TRUSTS—RECEIPTS AND EXPENDITURE, 1912.

Waterworks Trusts.	Receipts from—				Expenditure on—				
	Water Rates.	Sale of Water.	Other Sources.	Total.	Maintenance and Management.	Salaries and Wages.	Interest and Redemption.	Other Services.	Total.
	£	£	£	£	£	£	£	£	£
Alexandra	510	7	11	528	42	257	78	90	467
Avenel	228	4	..	232	58	43	100	7	208
Avoca *	..	..	..	..	..	..	..	..	..
Avoca Township ..	373	56	67	496	35	101	239	4	379
Bairnsdale	1,441	235	108	1,784	653	391	886	21	1,951
Ballan	298	8	11	317	143	39	39	7	228
Benalla	1,116	557	3	1,676	456	500	584	28	1,568
Bet Bet Shire ..	389	..	..	389	16	56	308	3	383
Boort	315	13	..	328	148	37	22	1	208
Bright	306	82	4	392	398	44	123	3	568
Broadford	783	..	2	785	28	143	547	3	721
Carisbrook	317	2	8	327	14	44	261	10	329
Carrum *	..	..	..	..	..	..	..	..	..
Charlton	649	..	14	663	351	70	200	19	640
Cobram	402	4	2	408	108	132	203	8	451
Colac	2,503	394	13	2,910	370	385	2,421	16	3,192
Dandenong ..	960	20	4	984	722	146	..	1	869
Daylesford Borough	1,124	584	288	1,996	809	201	1,021	7	2,038
Donald	648	248	39	935	428	273	308	42	1,051
Donald Shire ..	267	..	4	271	124	52	148	16	340
Echuca Borough ..	1,974	8	62	2,044	807	806	380	31	2,024
Elmore	287	166	..	453	94	181	166	12	453
Euroa	713	256	32	1,001	118	89	729	30	966
Geelong Municipal † ..	12,978	5,202	263	18,443	1,715	2,018	12,609	126	16,468
Gisborne	261	..	11	272	45	92	173	6	316
Glenrowan	34	..	1	35	..	..	..	..	..
Hamilton	2,805	574	157	3,536	1,419	429	1,864	167	3,879
Healesville	436	103	28	567	132	65	190	13	400
Heathcote	395	96	7	498	151	106	367	10	634
Horsham Borough ..	1,671	510	297	2,478	1,165	222	1,017	15	2,419
Kara Kara Shire ..	687	..	25	712	406	37	414	3	860
Kerang	1,419	..	10	1,429	750	275	495	44	1,564
Kerang Shire ‡ ..	..	..	..	..	..	..	..	..	..
Kilmore	545	449	6	1,000	48	225	560	8	841
Koroit	361	291	..	652	296	173	131	2	602
Korumburra ..	554	391	105	1,050	255	236	502	45	1,038
Kowree	332	..	3	335	69	46	318	1	434
Kyabram	360	95	2	457	176	183	126	..	485
Kyneton Shire ..	1,216	774	81	2,071	809	370	996	23	2,198
Lancefield	229	87	1	317	31	21	303	..	355
Lawloit	908	..	33	941	1,689	658	561	47	2,955
Leongatha	591	73	18	682	33	75	571	10	689

(For footnotes see end of table.)

WATERWORKS TRUSTS—RECEIPTS AND EXPENDITURE, 1912—*continued.*

Waterworks Trusts.	Receipts from—				Expenditure on—				
	Water Rates.	Sale of Water.	Other Sources.	Total.	Maintenance and Management.	Salaries and Wages.	Interest and Redemption.	Other Services.	Total
	£	£	£	£	£	£	£	£	£
Lilydale	404	80	3	487	31	153	336	7	527
Loddon United * ..	..	..	..	..	..	..	..	..	..
Longwood	152	..	1	153	11	33	81	3	128
Lowan Shire ..	1,485	..	48	1,533	1,460	365	508	20	2,353
Macedon	166	..	2	168	9	34	120	..	163
Mansfield	541	166	5	712	104	220	327	..	651
Maryborough ..	2,892	1,039	26	3,957	572	320	2,915	16	3,823
Mooroopna ..	361	78	4	443	163	156	37	1	357
Murchison	200	202	7	409	127	159	125	3	414
Murtoa	591	204	3	798	248	189	146	40	623
Nagambie	389	39	4	432	238	139	66	11	454
Nhill	1,101	8	289	1,398	785	60	342	29	1,216
Numurkah Shire ..	2,282	287	51	2,620	1,341	598	759	24	2,722
Omeo	286	14	6	306	100	30	165	11	306
Pyramid Hill ..	190	17	2	209	135	25	113	29	302
Riddell's Creek ..	209	..	1	210	19	37	156	..	212
Rochester	562	35	3	600	294	147	117	17	575
Romsey	281	..	4	285	50	44	175	..	269
Rushworth ..	575	9	5	589	208	161	200	22	591
Rutherglen ..	1,427	44	13	1,484	458	228	936	5	1,627
Seymour	606	1,281	97	1,984	711	268	1,199	31	2,209
Shepparton Urban ..	1,884	240	32	2,156	599	448	708	30	1,785
Shepparton Shire ..	1,210	23	3	1,236	466	247	642	9	1,364
St. Arnaud Borough ..	1,814	5	58	1,877	154	183	706	30	1,073
Stawell Shire ‡ ..	..	..	..	..	..	..	..	..	..
Sunbury	304	596	3	903	117	95	750	10	972
Swan Hill	969	9	68	1,046	376	283	102	2	763
Swan Hill Shire § ..	..	..	..	..	..	..	..	..	..
Tallangatta ..	390	33	20	443	131	124	195	12	462
Tatura	422	106	16	544	144	195	69	24	432
Traralgon	847	90	5	942	62	103	660	7	832
Tungamah Shire ..	1,681	106	29	1,816	443	736	755	53	1,987
Upper Macedon ..	204	21	7	232	66	37	91	5	199
Violet Town ..	328	..	8	336	128	61	127	5	321
Wangaratta ..	1,408	303	27	1,738	508	291	442	12	1,253
Warracknabeal ..	929	112	7	1,048	987	166	235	6	1,394
Warragul	937	114	122	1,173	295	196	707	12	1,210
Warrnambool ..	2,786	560	250	3,596	1,212	654	1,678	..	3,544
West Charlton ..	251	..	3	254	360	35	190	..	585
Winchelsea Shire ..	357	..	2	359	30	45	250	4	329
Wodonga	463	27	29	519	30	140	336	2	508
Woodend	249	350	7	606	76	204	379	10	669
Yarram	473	110	4	587	301	32	97	7	437
Yarrawonga Urban ..	812	66	..	878	388	223	340	..	951
Yatchaw	357	..	1	358	287	38	200	28	553
Yea	301	293	10	604	286	185	86	15	572
Total ..	75,461	17,956	3,005	96,422	29,621	17,308	48,528	1,431	96,888

* The property of this trust has been taken possession of by the State Rivers and Water Supply Commission.
† Year ended 30th June, 1912.
‡ This trust is inoperative
§ This trust was abolished under the provisions of the *Water Act* 1905.

Municipal Waterworks.

Of the waterworks controlled by Municipalities, the most important are those at Ballarat vested in the Ballarat Water Commission, and having reservoirs with a storage capacity of nearly 851

million gallons. Other important reservoirs in this group are those supplying Beechworth, Clunes, and Talbot, their respective storage capacities being 191, 227, and 200 million gallons. The following return shows the financial position existing between the State and corporations on account of these Waterworks :—

WATERWORKS OF MUNICIPAL CORPORATIONS—CAPITAL INDEBTEDNESS AND INTEREST OUTSTANDING, 30TH JUNE, 1912.

Local Bodies.	Cost of Works to 30th June, 1912, defrayed from Loan Advances made by State.	Capital Indebtedness.				Interest outstanding at 30th June, 1912.
		Increased by Interest capitalized	Reduced by—		At 30th June, 1912.	
			Amounts written off.	Payments towards Redemption.		
	£	£	£	£	£	£
Arapiles Shire ..	3,600	..	..	1,171	2,429	49
Ararat Borough ..	49,935	..	18,266	2,104	29,565	591
Ballarat Water Commission	309,300	41,869	2,111	51,833	297,225	5,629
Beechworth Shire ..	30,426	1,256	5,958	4,475	21,249	..
Bet Bet Shire ..	1,000	..	985	15	..	..
Castle Donnington (Swan Hill) Shire ..	177	..	..	26	151	15
Chiltern Shire ..	4,500	508	508	795	3,705	74
Clunes Borough Water Commission ..	70,195	..	62,395	528	7,272	..
Creswick Borough ..	3,500	..	..	3,500	..	..
Dimboola Shire ..	358	..	..	61	297	5
Dunolly Borough ..	2,190	..	..	838	1,352	27
Inglewood Borough ..	5,150	..	..	1,662	3,488	70
Kerang Shire ..	2,544	..	..	321	2,223	..
Korong Shire ..	1,565	..	..	427	1,138	23
Ripon Shire ..	3,000	..	..	1,342	1,658	..
Stawell Borough ..	108,506	..	61,661	4,114	42,731	1,217
Talbot Borough ..	15,000	..	13,986	81	933	..
Tarnagulla Borough ..	800	..	..	161	639	..
Wimmera Shire ..	28,890	..	..	26,273	2,617	52
Total ..	640,636	43,633	165,870	99,727	418,672	7,752

The corporations of Echuca Borough and Ballan and Melton Shires also have waterworks, the first purchased from the State, and the other two constructed out of Shire funds.

In addition to the above, £9,889 (including £346 capitalized interest) was paid towards redemption by municipal corporations, whose liabilities to the State have been transferred to Waterworks Trusts, and £4,062 by municipalities whose works have been transferred to the State Rivers and Water Supply Commission.

Abolished Trusts.

The irrigation and water supply trusts specified below were abolished, and the liabilities in respect of amounts due and owing to the Crown by such trusts on account of principal sums advanced by way of loan, and accrued interest thereon, were cancelled by provision in the *Water Act* 1905.

IRRIGATION AND WATER SUPPLY TRUSTS ABOLISHED AND LIABILITIES CANCELLED.

Name of Trust.	Cost of Works.			Written off.		
	Advances.	Grants.	Total.	Capital.	Interest.	Total.
	£	£	£	£	£	£
Dookie	630	..	630	630	171	801
Emu Valley ..	8,167	..	8,167	8,167	2,907	11,074
Harcourt	1,142	..	1,142	1,112*	335	1,447
Lerderderg ..	447	..	447	447	169	616
Millewa	973	..	973	973	582	1,555
Pine Hills	2,051	243	2,294	2,051	1,065	3,116
Torrumberry North ..	12,300	..	12,300	12,300	5,812	18,112
Werribee	6,000	..	6,000	6,000	3,752	9,752
Total ..	31,710	243	31,953	31,680	14,793	46,473

* £30 paid to Redemption Fund by Trust.

The Dookie works are now used solely for the supply of water to the Dookie Agricultural College, and the Emu Valley and Harcourt works have been attached to the Coliban scheme.

Mildura irrigation settlement.

A full account of the history of the Mildura Irrigation Settlement from its inception will be found in the *Victorian Year-Book*, 1904. The settlement was established in 1887, and the following particulars are an indication of its prosperity:—

POPULATION OF MILDURA SHIRE, 1891 TO 1911.

1891	April (Census)	... 2,321	1901	March (Census)	...	3,325
1896	September ...	... 2,000	1911	April (Census)	...	6,119

The receipts and payments of the Mildura Irrigation Trust during the year ended 30th June, 1912, were as follows:—

RECEIPTS AND PAYMENTS OF FIRST MILDURA IRRIGATION TRUST, 1911-12.

Receipts.	£	*Payments.*	£
Horticultural Rates ..	16,794	Wages, Salaries, &c. ..	5,734
Town Rates (arrears) ..	117	Fuel	6,570
Special Waterings, &c. ..	3,510	Interest and Sinking Fund ..	3,233
Miscellaneous ..	1,718	Repairs, Renewals, and Depreciation	3,697
		Miscellaneous	3,482
Total	22,139	Total	22,716

The area of land under cultivation in the settlement was, in April, 1912, 12,209 acres; in April, 1910, 12,189 acres; and in April, 1909, 11,900 acres. The extent of watering done represents 40,860 acres in 1911-12, 35,475 acres in 1909-10, and 36,909 acres in 1908-9. In the following statement, the principal kinds of fruit, &c., grown are tabulated.

ACREAGE UNDER CULTIVATION AT MILDURA, APRIL, 1912.

Vines.				Citrus.		Other Fruit Trees.				Miscellaneous.				Total.
Gordos.	Sultanas.	Currants.	Wine.	Oranges.	Lemons.	Apricots.	Peaches.	Figs.	Unenumerated.	Lucerne.	Crop.	Household garden.	Vacant.	
2,089	3,933	1,735	34	597	251	386	199	45	369	605	854	251	861	12,209

METEOROLOGY.

Meteorological Records.

Interesting particulars in regard to climate and weather conditions have been furnished by the Commonwealth Meteorologist, and are given in the following tables. In the first is shown the actual rainfall during the years 1910, 1911, and 1912, and the average yearly amount of rainfall deduced from all available records to

December, 1912, in each of the 26 river basins or districts constituting the State of Victoria:—

RAINFALL—YEARLY RECORDS AND AVERAGES

Basin or District.	Rainfall.			
	Yearly Average, to Dec., 1912.	During 1910.	During 1911.	During 1912.
	Inches.	Inches.	Inches.	Inches.
Glenelg and Wannon Rivers ..	27·83	32·96	27·51	24·73
Fitzroy, Eumerella, and Merrie Rivers	30·73	34·35	32·09	27·15
Hopkins River and Mt. Emu Creek	25·84	29·31	30·65	22·13
Mt. Elephant and Lake Corangamite	25·12	26·70	29·58	21·38
Cape Otway Forest	38·25	42·46	43·51	34·91
Moorabool and Barwon Rivers ..	25·24	26·82	28·39	22 35
Werribee and Saltwater Rivers ..	24·32	23·56	33·23	19·92
Yarra River and Dandenong Creek	35·70	34·63	44·65	31·47
Koo-wee-rup Swamp	35·11	33·80	39·88	29·55
South Gippsland	39·35	34·61	41·19	30·68
Latrobe and Thomson Rivers ..	36·14	33·78	43·77	32·18
Macallister and Avon Rivers ..	23·53	23·51	31·92	19·33
Mitchell River	28·24	26·63	36·53	22·55
Tambo and Nicholson Rivers ..	26·60	24·93	41·45	23·00
Snowy River	33·76	31·74	47·65	28·16
Murray River	20·33	19·94	21·97	20·40
Mitta Mitta and Kiewa Rivers ..	35·59	34·54	34·20	34·93
Ovens River	36·41	33·71	36·70	35·86
Goulburn River	26·12	26·95	27·67	24·60
Campaspe River	24·45	27·84	29·03	20·96
Loddon River	19·06	21·65	22·60	17·35
Avon and Richardson Rivers ..	16·56	19·24	21·42	16·24
Avoca River	17·39	21·11	20·45	16·42
Eastern Wimmera	22·05	26·54	25·61	20·26
Western Wimmera	19·75	24·41	18·04	18·90
Mallee	13·98	18·47	17·36	13·05
Weighted Averages ..	24·59	26·42	28·54	21·82

The figures in the above table are the averages for each district. The next statement shows the areas of the State subject to different degrees of rainfall.

Rainfall.	Area in square miles.
Over 60 inches	1,597
From 50 to 60 inches	3,348
From 40 to 50 inches	7,055
From 30 to 40 inches	14,029
From 25 to 30 inches	15,247
From 20 to 25 inches	14,070
From 15 to 20 inches	12,626
Under 15 inches	19,912

The rainfall recorded for each quarter in 1912, and the quarterly averages up to 1912 deducted from all available records are as follows:—

RAINFALL—QUARTERLY RECORDS AND AVERAGES.

Basin or District.	First Quarter.		Second Quarter.		Third Quarter.		Fourth Quarter.	
	Amount.	Average.	Amount.	Average.	Amount.	Average.	Amount.	Average.
	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.	Pts.
Glenelg and Wannon Rivers	261	386	553	847	1,028	937	631	613
Fitzroy, Eumerella, and Merri Rivers ..	324	496	723	934	989	1,005	679	638
Hopkins River and Mt. Emu Creek ..	222	449	537	756	811	779	643	600
Mt. Elephant and Lake Corangamite ..	238	459	525	710	721	749	654	594
Cape Otway Forest	276	642	960	1,174	1,344	1,204	911	805
Moorabool and Barwon Rivers	240	463	535	705	825	729	635	627
Werribee and Saltwater Rivers	262	490	473	644	693	654	564	644
Yarra River and Dandenong Creek ..	359	700	740	992	1,030	950	1,018	928
Koo-wee-rup Swamp	200	673	728	990	983	979	954	869
South Gippsland	322	714	858	1,113	1,123	1,157	765	951
Latrobe and Thomson Rivers	338	691	718	952	1,181	1,034	981	937
Macallister and Avon Rivers	268	536	339	566	703	574	623	677
Mitchell River	270	696	493	718	769	689	723	721
Tambo and Nicholson Rivers	257	683	567	610	730	618	746	749
Snowy River	367	800	804	900	936	850	709	826
Murray River	178	390	303	582	802	591	757	470
Mitta Mitta and Kiewa Rivers	355	629	532	1,004	1,492	1,089	1,114	837
Ovens River	336	612	558	1,079	1,527	1,144	1,165	806
Goulburn River	204	433	372	778	974	801	910	600
Campaspe River	166	404	370	721	977	781	585	539
Loddon River	183	329	316	575	743	575	493	427
Avon and Richardson Rivers	150	273	310	516	757	514	407	353
Avoca River	139	278	328	530	721	547	454	384
Eastern Wimmera	138	333	403	666	999	734	486	472
Western Wimmera	96	246	402	631	957	681	435	417
Mallee	94	235	313	441	558	428	340	294
The whole State	207	438	475	715	854	733	646	571

N. B.—100 points=1 inch.

RAINFALL IN REGIONS, DURING EACH QUARTER, 1910, 1911, AND 1912.

Percentage above the average, + (plus); below the average, — (minus).

Regions.	First Quarter.			Second Quarter.			Third Quarter.		
	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.
	%	%	%	%	%	%	%	%	%
Western Districts	+50	+ 99	—42	—17	— 8	—28	+24	—17	+ 2
Cape Otway Forest	+10	+110	—57	—13	— 1	—18	+20	—10	+12
Counties surrounding Port Phillip Bay	+10	+112	—51	—30	+16	—26	+13	—17	+ 7
South Gippsland	+25	+ 84	—55	—42	— 1	—23	—10	—26	— 3
Basins of the Latrobe, Macallister, and Mitchell Rivers	—17	+114	—54	—48	+33	—31	+ 9	—13	+15
Basins of the Tambo and Snowy Rivers	—11	+169	—58	—33	+23	— 9	+ 8	+15	+13
All Northern Areas between the Ranges and the Murray, East of the Campaspe River	— 9	+116	—48	—25	— 7	—49	+26	—35	+32
All Northern Areas between the Ranges and the Murray, West of and including the Campaspe River	+83	+154	—54	—10	—13	—40	+45	—12	+34

Rainfall in Regions, during each Quarter, 1910, 1911, and 1912—*continued.*

Percentage above the average, + (plus); below the average, − (minus).

Regions.	Fourth Quarter.			Year.		
	1910.	1911.	1912.	1910.	1911.	1912.
	%	%	%	%	%	%
Western Districts	+17	— 5	+ 6	+14	+ 6	—13
Cape Otway Forest	+35	—11	+13	+11	+13	— 9
Counties surrounding Port Phillip Bay	+23	— 6	+ 3	— 1	+20	—14
South Gippsland	+26	—17	—20	—13	+ 3	—22
Basins of the Latrobe, Macallister, and Mitchell Rivers	+35	—16	..	— 4	+27	—16
Basins of the Tambo and Snowy Rivers	+17	—22	— 7	— 4	+46	—15
All Northern Areas between the Ranges and the Murray, East of the Campaspe River	+ 5	—30	+45	Normal	+ 2	— 2
All Northern Areas between the Ranges and the Murray, West of and including the Campaspe River ..	+ 8	—31	+11	+21	+20	— 8

Averages and Extremes of Climatic Elements for the Seasons and for the Meteorological Year deduced from all Records obtained in Melbourne in past years.

Meteorological Elements.	Spring.	Summer.	Autumn.	Winter.	Year.
Averages.					
Mean pressure of air in inches	29·971	29·925	30·081	30·081	30·014
Monthly range of pressure of air—Inches	0·893	0·780	0·808	0·982	0·866
Mean temperature of air in shade —°Fahr.	57·6	66·4	59·4	49·9	58·3
Mean daily range of temperature of air in shade—°Fahr. ..	18·7	21·4	17·6	14·1	17·9
Mean percentage of humidity. Saturation = 100	69	64	73	78	71
Mean rainfall in inches ..	7·19	5·89	6·65	5·78	25·51
Mean number of days of rain ..	37	23	32	41	133
Mean amount of spontaneous evaporation in inches ..	10·02	17·05	7·69	3·62	38·38
Mean daily amount of cloudiness —Scale 0 to 10	6·0	5·2	6·0	6·4	5·9
Mean number of days of fog ..	1	1	5	10	17

Extremes.

Barometer corrected for Temperature, Sea Level, and Standard Gravity.	Inches.
Greatest monthly range ...	1·503
Smallest ,, ,, ...	0·489
Greatest yearly range ..	1·719
Smallest ,, ,, ...	1·169
Highest air pressure on record	30·762
Lowest ,, ,, ,,	28·942

Temperature of air in shade	° Fahr.
Greatest monthly range ...	69·1
Smallest ,, ,, ...	23·4
Greatest yearly range ...	82·6
Smallest ,, ,, ...	66·0
Greatest mean daily range ...	27·8
Smallest ,, ,, ,, ...	7·7
Highest temperature on record	111·2
Lowest ,, ,,	27·0

AVERAGES AND EXTREMES OF CLIMATIC ELEMENTS—*continued.*

Extremes—continued.

Solar radiation—highest on record	178·5	° Fahr.
Terrestrial radiation—lowest on record ..	20·4	„
Greatest rainfall on record	36·61	Inches.
Smallest rainfall on record	15·61	„
Horizontal motion	81·118	Miles
Mean hourly velocity of wind	9·2	„

The table below contains the values of the principal Meteorological elements for the calender year 1912, with the corresponding averages and extremes, based on the official records for 56 years:—

METEOROLOGY, 1857 TO 1912.

Meteorological Elements.	Yearly Averages and Extremes.			
	Year 1912.	Average for 56 Years.	Extremes between which the Yearly Average Values have oscillated in 56 years.	
			Highest.	Lowest.
Mean atmospheric pressure (inches) ...	30·022	30·014	...	...
Highest „ „ „ ...	30·646	30·609	30·762	30·081
Lowest „ „ „ ...	29·209	29·252	29·983	28·942
Range (inches)	1·437	1·357	1·719	1·169
Mean temperature of a in shade(°Fahr.)	58·5	58·3	59·7	57·3
Mean daily maximum ... „	67·2	67·3	69·0	66·0
Mean daily minimum ... „	49·8	49·4	51·2	47·2
Absolute maximum ... „	106·5	105·2	111·2	96·6
Absolute minimum ... „	30·8	30·7	33·9	27·0
Mean daily range ... ... „	17·4	17·9	20·3	14·6
Absolute annual range ... „	75·7	74·5	82·6	66·0
Solar Radiation (maximum)... „	157·1	161·0	178·5	92·7
Terrestrial Radiation (minimum) „	23·9	24·8	28·4	20·4
Rainfall (in inches)...	20·37	25·51	36·61	15·61
Number of wet days	157	133	171	102
Year's amount of free evaporation (in inches)	41·19	38·38	45·66	31·59
Percentage of humidity (saturation = 100)	64	71	...	...
Cloudiness (scale 10 = overcast, 0 = clear)	5·6	5·9	...	...
Number of days of fog	31	17	39	5

DEPARTMENT OF AGRICULTURE.

This Department is controlled by a Minister of the Crown, and has a large staff of experts, with a Director of Agriculture at the head. These are actively engaged in supervising all matters relating to the Agricultural, Pastoral, Fruit, and Dairying Industries of the State, and in giving instruction to those engaged therein. The Department publishes a monthly journal.

Government Experimental Farming.

The great expansion in our rural industries during recent years has been largely brought about by the general adoption of methods considered impracticable a few years ago. The main factors assisting in this expansion have been the introduction of more prolific wheat, the adoption of bare fallowing and systematic crop rotation, the fertilization of the soil with soluble phosphates, and improved tillage methods. The Department of Agriculture has played no small part in effecting these improvements by means of its experimental and demonstration plots, for it is generally recognised that the agricultural practices of any country must remain more or less empirical unless supported by the results of long-continued, systematic experimental work.

During the past two years an important departure has been made in the system of conducting the experimental and general agricultural investigations of the Department of Agriculture. For many years it had been the practice to conduct a large number of experimental plots on private farms throughout the State, the objective of these plots being mainly the demonstration of the value of phosphatic manures and the testing of different varieties of cereal and forage crops. As the leases for these plots expired in December, 1911, it was considered desirable to concentrate the major portion of the experimental work on Government farms, and to considerably increase the number and scope of the experiments.

In 1911 there were 72 farmers' plots on which manurial and variety wheat trials were conducted, and, in addition, there were 35 plots for testing forages. The great majority of these plots were discontinued last year, and a commencement made towards a policy of concentration in experimental investigation. It was, therefore, decided to establish a Central Research Farm at Werribee, on which the initiative with regard to all experimental and research work would be undertaken, and to use the Rutherglen Farm, the Longerenong Agricultural College, and the Wyuna Irrigation Farms as district experiment stations for the North-East, Wimmera, and Goulburn Valley respectively.

Central Research Farm.

The Central Research Farm is being established for the permanent use of the Department of Agriculture, for the purpose of research work, experiments, and practical demonstrations in husbandry. The work carried out will reflect the teaching and experience of the staff of the Department, and will be designed in its results to insure the promotion of sound and advanced agricultural practice suitable to the present and probable future circumstances of the State.

The purpose of the farm is not to attain financially profitable results so far as the farm itself is concerned, but to confer on agriculture the benefits of modern scientific advances by the prosecution of investigations and trials, under practical and accurately-recorded

conditions, concerning the problems involved in increasing the agricultural output of the State, particularly as regards—

(*a*) Improvement of wheat and other cereals, grasses and economic plants by selection, stud-breeding, and hybridizing;
(*b*) Soil renovation, fertilizing, and tillage methods;
(*c*) Rotation of crops, and improved cropping practices;
(*d*) Irrigation practices; drainage and aeration of soils;
(*e*) Improvement of natural pastures, and trials of artificial grassing with exotic and native grasses;
(*f*) The breeding and feeding of live stock, improvement of milk yields, production of standard export types of lambs;
(*g*) Research concerning soil moisture, temperatures, biological conditions,and nutrification processes, and the nutrition of plants;
(*h*) Meteorological observations relating to agriculture.

The farm is within 1 mile of the Werribee railway station and 18 miles of Melbourne, so that it is within close touch of the Department and easy of access by farmers from all parts of the State. It contains dry farming and irrigation areas in proper proportion, and consists of comparatively good and definitely poor land. These are combined advantages that could hardly be secured elsewhere in the State. Much of the soil closely resembles in physical character and chemical analysis that of the Goulburn Valley and Wimmera cereal-growing districts, and the annual rainfall (19.5 in.) is practically the same.

The area of the farm is 1,167 acres, of which approximately 837 acres is poor to fair (grey-blue pug clay and shallow red stoney loam), and 330 acres fair to good (red volcanic loam, 6 to 7 inches, overlying clay). About 200 acres of the latter land is irrigable, and commanded by the main farm channel.

The bulk of the land has been cultivated for many years past for growing oaten hay, and is in a worn-out condition. Certain of the best land is known to have grown a crop continuously without a rest for the last 26 years. The deficiency of humus, indicated by the floury character of the soil after dry cultivation, and the hard setting on drying after rain, is also made apparent by the contrast beween the paddock soil and that on the removed fence lines.

The principal experiments laid down this season are the permanent rotation plots, stud cereal, selection and crossbred plots, permanent fertilizer experiments, top-dressing of natural and artificial pastures, cultural and tillage experiments, permanent green manurial and feeding-off tests and tests with irrigated lucerne, comprising top-dressing, soil inoculation, and fertilizer tests, rate of seeding, and variety trials.

With the increase in land values in all parts of the State during the past decade, and the steadily increasing cost of labour, implements, and machinery, it is imperative that our wheat lands should be made more productive if profits are to be maintained. It is also

vitally necessary that this increased production should not be accompanied by depletion of the soil fertility. Unfortunately, even the casual observer may detect both in the wheat areas and in lands of high capacity in the well-watered districts of the State, that the older cultivated lands are uniformly less productive than virgin land in the same district. The main cause of this lowered productive capacity is the loss of organic matter from the soil by improvident systems of cropping. The experiments at Werribee are designed to test the practicability of various systems of crop rotation for regions of low rainfall, and the most practical and economical mode of restoring the organic matter to the soil.

Rutherglen Experiment Station.

An experimental farm has been established on the Rutherglen Viticultural College Reserve. The farm area consists of 640 acres of land, of which 470 acres have now been cleared and converted into arable land. The greater part of the area consists of poor soils of greyish clay more or less interspersed with buckshot gravel. The grey soil is relieved occasionally with patches of reddish brown clay loams. The primary purpose kept in view in developing this farm area has been to carry out a comprehensive plan of permanent experimentation with the object of assisting agricultural practice in the north-east. With this end in view a series of permanent plots have been laid out. The investigations are very similar in character to those already described as being undertaken at Werribee, and comprise the following:—

(1) Testing the value of various top-dressings as a means of improving the stock carrying capacity of the natural pastures.
(2) The improvement of wheat, oats, and barley by systematic selection, crossbreeding and hybridization.
(3) Testing the comparative values of twelve different systems of crop rotation, of which only two are at present in vogue in the north-east.
(4) Permanent fertilizer tests designed for the purpose of determining the immediate and cumulative effect of different kinds of phosphatic, nitrogenous, potassic and green manures, singly and in various combinations.
(5) Cultural and tillage tests, with the object of determining the value of deep and shallow working, subsoiling, early and late fallowing, &c.
(6) The raising of selected seed wheat, barley, and oats for distribution among farmers.
(7) Variety wheat, barley, and oat tests.
(8) Green manurial and feeding off trials to determine the most profitable, economical, and effective method of soil renovation.
(9) Pure research work — comprising the movement of soil moisture and nitrates under different cultural treatment, the determination of the water requirements of crops, and the assimilation of the elements of nutrition at different stages of growth.

At the Longerenong Agricultural College and the Wyuna State Farm experiments have been laid out to supplement certain of the tests at Werribee and Rutherglen. At both centres comprehensive manurial and variety tests have been included. At Longerenong, also, a large number of plots have been devoted to the fixation and testing of new crossbred wheats, new selected wheats, oats, and barleys.

At Wyuna a permanent experiment field has been laid out under irrigation, with the object of testing the most suitable combinations of grasses and clovers to sow for laying down permanent irrigated pastures; the comparative values of liming, subsoiling, inoculation; the comparative values of different fertilizers; and variety, rate of seeding, and cultural tests for lucerne. Comprehensive experiments are being carried out with sorghum, maize, mangolds, potatoes, and soya beans.

Agricultural Education.

Agricultural education.

An Act for the establishment of Agricultural Colleges was passed towards the close of 1884, and five areas were reserved as sites for colleges and experimental farms, viz.—Dookie, Longerenong, Gunyah Gunyah, Olangolah, and Bullarto. The total area of these reserves is 14,460 acres. Particulars are as follows:—

Areas of Agricultural College and Experimental Farm Lands, 1912.

Name.	Area.	How Used.
	Acres.	
Dookie and Currawa	5,957	College and Experimental Farm
Longerenong (Jung Jung) ...	2,386	,, ,, ,,
Gunyah Gunyah and Jumbuk ...	2,500	Let for grazing and cultivation
Olangolah	2,800	Not in use
Bullarto	817	Let for grazing, &c.
Total	14,460	

The Gunyah Gunyah, Olangolah, and Bullarto reserves have never been used for the purposes of colleges, but Gunyah Gunyah is let for grazing and agriculture, and Bullarto for grazing and forestry. Olangolah has been applied for as a catchment area for the water supply of Colac.

Endowment lands.

In addition to the college and farm lands, provision was made by the Act of 1884 to permanently reserve from sale an area of not more than 150,000 acres of Crown lands, and to vest it in trustees to be appointed, who should hold it in trust for the benefit of and by way of an endowment for State agricultural colleges and experimental farms. The land so reserved now amounts to 73,694 acres,

and its location is shown in the following table. At present the areas are let for grazing and agricultural purposes:—

ENDOWMENT AREAS.

Parish.	Acres.	Parish.	Acres.
Ararat	1,100	Leeor	125
Ardno	210	Moyston	242
Alexandra..	79	Moyston West	319
Bellellen and Illawarra ..	750	Meering	690
Beveridge Island	2,732	Myrrhee	394
Brankeet	387	Mooroopna	98
Berringama	199	Milloo	120
Bealiba	135	Mirampiram	99
Bumbang	10,000	Moira	136
Byawatha	108	Mologa	107
Buckrabanyule	220	Nurcoung	230
Bringalbart	79	Pental Island	17,350
Bangerang	58	Pannoomilloo	100
Broadwater	198	Peechember	50
Carraragarmungee	1,864	Purnim	3,678
Cudgewa	732	Quantong	495
Colac Colac	420	Quambatook	380
Corack East	474	Turrumberry North ..	615
Charam	331	Tullich	400
Carchap	99	Terrick Terrick East and West	160
Charlton East	228	Terrick Terrick East ..	40
Dropmore and Ruffy ..	454	Tallandoon	116
Dinyarrak..	359	Tarwin	167
Dartagook	120	Turrumberry	281
Estcourt	2,831	Tallygaroopna	430
French Island	340	Tragowel	250
Gooram Gong	582	Toolongrook	160
Granya	586	Wychitella	1,015
Gowangardie and Currawa ..	272	Walwa	200
Glenpatrick	100	Windham	452
Glynwylln..	524	Wabba	335
Jumbuk	2,641	Warrenbayne	145
Kunat Kunat	700	Wappan	293
Karramomus and Tamleugh..	672	Woorak	630
Kerrisdale..	148	Waratah	148
Kaarimba	429	Wareek	100
Knowsley	103	Warrenmang	120
Knowsley East	296	Wail	240
Korrak Korrak	150	Wonthaggi North	2,535
Kinypanial	80	Yarck	569
Koonik Koonik	37	Yanac-a-Yanac	168
Konnepra	126	Yeringa	160
Kerang	90	Yeerung	1,400
Laen	887		
Longwood..	242	Total	73,694
Lang Lang and Yallock ..	4,780		

Reserves in the parishes of Lindsay Island and Mulroo and Yelta (42,000 and 28,600 acres respectively) have been resumed by the Government.

Dookie Agricultural College.

The State farm at Dookie, established chiefly for the instruction of students in agriculture, and, secondarily, for experimental work, has an area of 5,957 acres.

Under the provisions of the *Agricultural Colleges Act* 1884, the farm has been vested in trustees, and all moneys received from the sale of stock and produce since June, 1885, have been paid into the Agricultural College fund.

There were 95 students in attendance at the College in 1912. The charges per head per annum are:—For maintenance—first year, £30, second year, £25, third year, £20; for medical attendance and medicines, £1 5s.; for books and other school materials, £4. Conduct, deposit, and sports fees are also payable. No charge is made for instruction.

The farm has 34½ acres under vines, 38 acres under fruit trees, olives, &c., and in 1912 had 822 acres under cereals, hay, and green fodder. The live stock comprised 109 horses, 40 dairy cows, 80 other cattle, 1,250 sheep, and 150 pigs. The produce of the farm supplied to the College and farm for rations, &c., for the year was valued at £3,670, and the receipts comprised £2,520 from fees, and £2,050 from sale of produce. The expenditure for the year, including that on buildings and maintenance, amounted to £13,624.

Considerable attention is devoted to experimental work in connexion with the raising of new varieties of wheat and other cereals, fodder, and other plants of economic importance.

The ploughing, sowing, and harvesting on the farm are mainly carried out by the students under competent instructors, and last season the students ploughed 1,250 acres, and cropped 822 acres; about 9,400 bushels of grain being harvested, and 600 tons of hay, straw, and ensilage made.

Other important branches of farm work at Dookie are the breeding of horses, cattle, sheep, and pigs, the raising of early lambs for market, and the keeping of poultry.

Longerenong Agricultural College.

The State Agricultural College and farm at Longerenong has provision for 35 resident students. Non-resident students, the sons of neighbouring farmers, are allowed to attend classes. The farm contains 2,386 acres of land typical of the lighter Wimmera soils, of which about 700 acres are only fit for grazing, being low-lying and subject to floods in winter; the bulk of the remainder is well adapted for wheat-growing and lamb raising. About 400 acres are cropped each year, the staple crop being wheat, of which the average yield per acre for the season 1912-13 was 13 bushels.

A seed farm of 10 acres for the propagation and crossing of wheat and other cereals has been established for the purpose of distributing new and improved cereals to agriculturists, and experimental work is being carried on with grasses, maizes, and other fodder plants.

The orchard, containing 28 acres—5 of which are planted with phylloxera-resistant vines—and about 20 acres of summer fodder crops are irrigated each season by water obtained from the Western Wimmera Distributary Works.

Considerable attention has been paid to tree-planting—several plantations of fair extent having been established on the estate, and the roadways bordered with sugar-gums, pepper-trees, and pines of different kinds. The paddocks are watered by seven tanks, varying in capacity from 1,000 to 5,000 cubic yards, which in dry years, are filled from the irrigation channel. The college buildings have been thoroughly renovated, are lit by air gas, and are sewered on the septic-tank principle.

The live stock on the farm in 1913 comprised 42 horses, 35 dairy cattle, 35 other cattle, 1,600 sheep and lambs, and 29 pigs.

Lamb raising is one of the chief industries at Longerenong, and in 1912 the lambing averaged 83 per cent.

In 1912 the receipts comprised fees £720, and sale of produce, &c., £1,168; whilst the expenditure, including that on buildings and maintenance, salaries, wages, and equipment, amounted to £5,057. Farm produce used for College consumption was valued at £747.

The syllabus of instruction is similar to that given at the other Agricultural Colleges in the Commonwealth.

Recent improvements effected include a dormitory of fifteen rooms—all students now being accommodated in single rooms—a shearing shed fitted with the Moffat-Virtue machine, and a pumping plant to fill the elevated tank for domestic supply.

Wyuna Irrigation Farm.

The State Irrigation Farm at Wyuna is devoted chiefly to the raising, under irrigation, of all kinds of fodder crops, and the carrying on of dairying and the experimental feeding of stock. It is situated in the Shire of Deakin, 9 miles north of Kyabram, and 8 miles north-east of Tongala, on the Echuca-Toolamba railway line.

The average rainfall of the district is about 16 inches, and an abundant supply of water for the farm is derived from the Waranga Basin by means of the channels of the State Rivers Commission, which intersect the property. The farm has an area of 540 acres, of which 150 acres have been cleared, cultivated, and graded, and 130 acres permanently laid down to lucerne and provided with a system of irrigation and drainage channels.

A considerable amount of experimental work is carried out at this centre. On the irrigation area permanent irrigation has been established with the object of obtaining exact information as to the manurial requirements of lucerne under irrigation conditions, and the value of different top-dressings. The experiments with lucerne also include variety, cultural and tillage tests. A series of 30 irrigated plots sown with various grasses and clovers have been laid down with the object of finding out the best permanent pastures for grazing on small irrigated dairy holdings on which lucerne is the staple crop.

In addition, systematic tests are being carried out with various summer forages. These include millet, amber-cane, sorghum, maize, kaffir corn, and mangolds. Experiments are also being conducted with various winter forages and ensilage crops, including pease, vetches, oats, barley, rye, beans, and beerseem. On the dry-farming

area selected seed wheats, true to type, are grown for distribution among farmers, and variety wheat tests, manurial and cultural, are carried out.

The live stock consists of 10 working horses, 98 dairy cows and heifer calves, 30 pigs, and 300 head of poultry.

Tobacco experimental work Bamawm Government Farm.

Further experiments were conducted at the Bamawm Farm under irrigation in the year 1912. The season was very unsuitable for tobacco, heavy and consistent winds had the effect of bruising and breaking the leaves and also covering them with sand and dust. Cut worms did much damage in the early part of the transplanting season both to tobacco and broom corn, which was planted round the crops for protective purposes from wind.

Some nice tobacco was grown, but protection from winds will be necessary in this district. The varieties which proved successful were Hester and Lax for pipe tobaccoes, and Comstock and Vuelta for cigars.

Government Viticultural Station.

The Government Viticultural Station is situated near Rutherglen, and has an area of 960 acres, of which 60 acres have been planted with vines.

The chief work being done at the station is in connexion with the propagation and grafting of the American and Franco-American resistant vines for the reconstitution of phylloxerated vineyards.

As is well known, the ordinary European vines rapidly succumb to an attack of phylloxera—a disease which injures the vine roots and quickly destroys vineyards wherever it obtains a footing. In Victoria, phylloxera was discovered in 1877. By its inevitable spread it soon destroyed the vines in the districts into which it had been introduced, and other districts became infected. The seriousness of these attacks led to the trials of many methods to exterminate the pest, all of which have unfortunately proved futile. French investigators have discovered, however, that certain American vines are able to resist phylloxera, and these are used as stocks on which to graft the desired producing kinds.

There is a number of American vines grown, but all are not equally suitable for all soils, nor adapted as graft-bearers for all European varieties, hence the work undertaken at the viticultural station is to discover the most eligible kinds. To test their adaptability to the different soils, sub-stations were founded in each viticultural district of the State, and data carefully collected regarding the growth of each variety in the very diverse soils purposely selected for these tests.

To ascertain the grafting affinities of each kind of stock and scion, the principal wine and table varieties are grafted on each kind of resistant stock, after which they are planted out permanently and the results noted. Growers are thus enabled to see readily which stock suits a certain variety best. The grafting of those European vines of wine, table, and drying varieties that are in greatest demand, on suitable resistant stocks is carried out extensively during the season. A few rootlings are used as stocks, but the majority of the grafts are cuttings. A large number of the cuttings grown at the

station are utilized in grafting chosen varieties for vignerons, who may not have the facilities or time to carry out this operation for themselves.

A considerable area of more suitable land for nursery purposes has been taken up on the banks of the Murray, at Wahgunyah. Here a large irrigation plant, grafting and callusing houses, &c., have been erected. The callusing is done in a heated compartment, and the cuttings are packed in boxes with seaweed and sawdust.

To practically prove the efficacy of resistant stocks, grafted vines have been planted on the very sites of phylloxerated vines that had to be uprooted. These are growing luxuriantly, thus affording striking testimony to their resistant value. By careful attention to the vines it has been amply demonstrated that the yields of Victorian vineyards can be very considerably increased, £50 gross having been obtained from each acre of the College commercial vineyard.

In the vineyard attached to the station, interesting and useful experiments are being conducted in methods of pruning, cultivation, manuring, &c.

In the cellar, wines from the newer varieties of grapes introduced are all made separately, and although made in minute quantities and under great difficulties they have won the highest encomia from experts. The bulk wines made have invariably commanded the highest market value.

As a college for the sons of vine-growers the Viticultural Station did not become popular, but the buildings are now occupied by boys from the Neglected Children's Department, who are being trained in scientific and practical agriculture and viticulture, and are supplying vignerons and farmers with skilled labour of a class now difficult to obtain. This work has been sufficiently long in operation to enable some idea to be formed of its value and possibilities, and the results obtained justify the brightest optimism. Many lads trained in the various rural pursuits have been sent out to employment in different parts of the State, and all are doing well. While the instruction is eminently practical, yet the technical part is not overlooked. Demonstrations and lectures illustrated by lantern and microscope constitute a part of the regular curriculum, and these form topics for subsequent essays.

School of Horticulture.

This school is situated in Richmond Park, Burnley, and is about 3 miles from Melbourne. The site covers 33 acres of ground, and was originally part of the old police paddock. In 1890, the Government decided to establish on this site an institution for the training

of orchardists and small settlers, and during the past ten years much has been done to provide for the teaching of regular and casual students, and those visitors who may call in search of special information.

Model orchard blocks, gardens, and a students' training ground have been prepared, an entirely new and complete orchard equipment provided, and a large variety of instructive implementa got together for use in class and field work. Domestic and farm animals are kept, a poultry run is provided, and an apiary has been established; there are also such other conveniences as will insure a thoroughly practical training for students. The estate includes orchard, grazing and arable land where garden and vegetable crops are largely grown. The collection of fruit varieties now numbers over 2,000, and is unequalled anywhere in Australia.

The course for the Certificate of Horticulture covers two years, at the end of which time four successful students may be selected each year for continued training. Two of these will be trained in fruit-growing at Burnley, and two in floriculture and gardening work at the Melbourne Botanic Gardens. This continued term will last for two years, the students being paid £40 for the first and £52 for the second year.

The school course includes regular lectures in horticultural science, poultry breeding, bee-keeping, and kindred subjects.

Practical work includes the propagation and management of orchard trees, citrus, table grapes, and bush fruits, the harvesting, storing, packing, marketing, and drying of fruit, vegetable culture, the clearing, grading, and trenching of land, and the management of soils, manures, and drainage. The principal and his assistant carry out this programme by giving lessons daily in class-room and field.

The egg-laying competitions are now carried on here, and nearly one hundred competition poultry pens, with manager's house, sheds, &c., have been built. The competition pens are open to public inspection on Wednesdays and Saturdays from 2 p.m. to 4 p.m.

Prior to 1903 instruction was free, but a fee of £5 per annum is now charged. There has been a steady advance in the number of students, and there is every indication that the school is doing generally helpful work in the service of the State. The botanic gardens surrounding the principal's residence are noted for their beauty, and the instructional character of the work in progress makes the place well worth a visit at any season. The school year extends from February to December.

Agricultural High Schools.

Agricultural High Schools have been established at Warrnambool, Sale, Shepparton, Wangaratta, Ballarat, Colac, Mansfield, Warragul, Leongatha, and Mildura. During 1911-12 the expenditure on these schools, including buildings, amounted to £31,199 10s. 3d. They have been established under condition that—

(*a*) At least one-half of the cost of the necessary buildings and equipment shall be contributed by local subscriptions.

(*b*) An area of land of not less than 20 acres, situated in a convenient position to the High School, shall be provided and vested in the Minister of Public Instruction.

(*c*) At least 50 students paying prescribed fees shall be guaranteed before the proposal to establish an Agricultural High School is entertained.

Pupils for these schools must be at least 14 years of age, and must have obtained the certificate of merit at the local school, or have passed the primary or some higher examination at the Melbourne University, or they must have satisfied an Inspector of Schools that they are qualified to profit by the course of study.

A local council appointed for each school exercises a general oversight of the work, particularly in regard to the farm operations, and expends the maintenance allowance allotted to the school. It also nominates for free instruction students who possess the required qualifications, subject to the provision that the number of students so nominated shall not, in any one year, exceed 10 per cent. of the total number paying full fees at the school.

Inspection of Orchards, Nurseries, etc.

The orchards, nurseries, and gardens of the State are systematically inspected by the officers of the Vegetation Diseases Branch of the Department of Agriculture. Nurseries are inspected every six months, and certified to by the departmental supervisor if clean and free from disease. Old, worn-out and infected orchards are destroyed.

There has been considerable alteration in the departmental policy with respect to experimental orchards. The small and comparatively valueless demonstration orchards are being replaced by larger areas on which experimental and demonstration work have been concentrated. Two of these orchards have already been commenced—one at Bamawm and the other at Creswick.

Experiments are carried out in the treatment of diseases; lectures and demonstrations are given in the various phases of horticulture; and sites are selected on the farms of intending fruit-growers, to whom advice is given as to the most suitable varieties to be planted and their after treatment.

The fear of introducing the fruit-flies *Tephritis tryoni* and *Halterophora capitata* and diseases arising from other causes has necessitated a thorough examination of fruit from Queensland, New South Wales and elsewhere. The fruit-fly question is a very grave one, and should either of the above named insects obtain a footing in Victoria, a great portion of the large and important fruit industry of our State would be practically ruined.

Plants and cuttings coming from foreign parts are fumigated at the new fumigation building at Melbourne wharf, if a certificate that they have been treated at the port of shipment does not accompany the consignment. Even when they have been thus certified, the Chief Horticultural Officer has the right of examination, and, if necessary, of ordering a second fumigation.

Forestry.

The State has about 12,000,000 acres of woodland, and of this area over 4,600,000 acres are set aside as climatic reserves and for the production of timber. Of the State forest domain, some 3,000,000 acres are situated on the slopes of high mountain ranges, and their protection is essential for the maintenance of streams and springs; over half-a-million acres are situated in the extreme Eastern part of the State, but, owing to difficulties of transport, are not at present accessible for practical working; half-a-million acres, chiefly in the central district, which have been cut over, are closed for the protection of the young timber; while in the remaining area (over 600,000 acres) timber cutting is carried on in various parts. The bulk of the forest revenue is derived from a total area of about 200,000 acres. The trees are felled on the selection system of treatment; but for the supply of mine-props and fuel, large blocks are allotted and worked as coppice, or coppice under standards, thinnings only, light or severe as the circumstances require, being taken out in many districts. The open timber licence system has been abolished in Victoria, and strict control is enforced over the operations of timber-getters.

As is usual in newly-settled countries, little care was formerly exercised in respect to the forests, and, though Victoria is the best-wooded of the Australian States, the fact is due to the extent of its mountain territory and its ample rainfall. In many districts, particularly in the moister portions of the State, re-afforestation by natural process has been going on.

The timbers of commercial value in Victoria number twenty, all species of the eucalyptus family. Alarmist statements to the effect that there is an increasing scarcity of commercial timber here are ill-founded, as large supplies of hardwood are assured for many years to come.

A forest nursery, with provision for an annual output of from four to five million tree plants has been completed at Creswick, the existing nursery at Macedon has been remodelled, and a large new

nursery has been established at Broadford. The plantations at Creswick, Lara, and Mt. Alexander are being gradually extended, and large new plantations have been formed in the Wimmera district, in Southern Gippsland, and in coastal areas near Warrnambool and Frankston. In the past, much of this work was experimental, but the experience gained in the propagation and growing of Australian hardwoods, as well as exotic conifers, has proved of great benefit to the community. Transplants are distributed to farmers, municipalities, and State schools. Farmers particularly benefit by planting trees around their homesteads, as the home is thereby protected from wind and weather, and shelter and shade are afforded to live stock, thus insuring healthier flocks and herds and increased returns.

In addition to the three nurseries, there are thirteen plantation trial stations, having a total area of 13,000 acres. The persons employed in connexion with the State forests and nurseries comprise administrative and professional staff, 20; protective staff, 58; and nursery staff, 32. The revenue from licences and royalties in 1912 amounted to £51,145. The expenditure was £56,898, of which sum about 50 per cent. was devoted to the improvement of the natural forests and the extension of plantations.

A Forests Act, conferring reasonable powers of management and control on the conservancy staff, came into operation on 1st January, 1908, and an amending Act, which remedies certain defects in the principal Act, and gives the conservancy staff greater control over fire-raising and other forest offences, received the approval of Parliament in November, 1910. Under this law, working plans regulating the general fellings and output of timber from the reserves have been put in force, and thus the forests will be maintained in a productive condition.

General Remarks on Live Stock Diseases in Victoria.

No country in the world is so free from malignant infectious disorders in stock as Victoria. The State interferes in every direction to prevent the spread and importation of disease, and exercises a strict supervision over all animals slaughtered for food.

The inspection of meat products for export is carried out under stringent regulations, and by properly trained officers, and no meats are allowed to be canned unless they are of a perfectly wholesome character, and derived from animals free from disease. The premises where canning of meat is conducted are rigorously inspected, and cleanliness is a factor insisted upon in the packing operations. The Commonwealth Government controls the inspection of all meats exported from Australia, and all inspectors associated with the work are officials of the Crown. All countries where meats of Victorian origin are consumed are officially assured that meats canned

in this State are subjected to the closest scrutiny. The milk supply also is subjected to a strict inspection by the central government, and cleanliness in production and distribution is rigorously insisted on.

Horses.—Horses are particularly free from malignant infectious disorders. Glanders and farcy do not prevail anywhere in Australia. Tuberculosis does not occur in Victorian horses. Complaints caused by parasites that are common all the world over are occasionally encountered.

Cattle.—Rinderpest, eczema-epizootica (foot and mouth disease), and Texas-fever or tick fever—a disease dependent on a malarial organism, Pyrosomum Bigeminum, and introduced into the blood of cattle by the cattle tick (Ixodes Bovis)—do not exist in the State. The herds of Victoria are not seriously affected with tuberculosis. In consequence of the mildness of the climate, cattle do not require to be housed at any period of the year, and the continuous life in the open is conducive to the health of the animals, and to the suppression of that disease. Tubercle does not affect more than about 5 per cent. of Victorian cattle, and as greater care is now being exercised by stock-owners in the feeding and sheltering of milch cows than formerly, it is hoped that in a few years the percentage noted will undergo a material decline. Parasitic diseases are rare in Victorian cattle, and none inimical to human health are found.

Sheep.—Scab has been completely exterminated, and as regards other parasitic diseases no country in the world can produce so clean a bill of health for its ovines as Australia.

Swine.—Trichinosis (Trichina Spiralis) and "measles" (Cysticercus Cellulosæ), the hydatid stage of the tapeworm Tænia Solium of man, do not exist in Victoria. The conditions under which pigs are reared and kept in Victoria are conducive to their well-being and general freedom from disease. Mildness of climate, moreover, is a great factor in insuring their healthfulness.

Dogs.—Rabies (Hydrophobia) does not exist in Victoria, and there are no serious diseases prevailing in canines.

Poultry.—No serious diseases prevail in Victorian birds, and inspections of the poultry of the State are regularly conducted. The industry of rearing chickens and turkeys for export is now established on a solid basis, and there can be no question as to the wholesomeness of products of this kind which have had their origin in Victoria.

Agriculture, expenditure and revenue connected with.

The State has rendered substantial assistance to the various branches of the agricultural and pastoral industries during past years. The appended table summarizes for the last five years the items of State expenditure from consolidated revenue in this direction, and shows the amount of revenue received by the Department of Agriculture, which consists chiefly of payments by exporters for packing produce for export:—

EXPENDITURE AND REVENUE CONNECTED WITH AGRICULTURE, ETC., 1907-8 TO 1911-12.

——	1907-8.	1908-9.	1909-10.	1910-11.	1911-12.
Expenditure.	£	£	£	£	£
Department of Agriculture	12,323	13,965	12,710	12,790	18,454
Grants to Agricultural and Horticultural Societies, &c.	3,351	3,382	3,491	3,535	3,846
To promote the Agricultural, Dairying, Fruit, and Wine Industries	213	288	365	87	625
Seed Advances Act—Fees ...	57	...	...	...	...
Development of Export Trade	32,859	24,798	37,400	38,699	37,185
Viticultural Education and Inspection of Vineyards ...	5,196	4,666	4,691	4,509	5,000
Vegetation Diseases ...	8,600	8,880	9,043	9,049	...
Maffra Beet Sugar Factory ...	222	347	642	13,019	37,975
Cool Fruit Stores	1,345	799	6,806	7,368	2,244
Technical Agricultural Education, &c.	25,487	25,148	22,066	22,648	30,588
Traction Engine, Boring Plant, &c.	...	...	..	10,854	...
Veterinary Institute—Works and Buildings	...	1,100	8,785	1,498	...
Settlers Stock Fund ...	...	...	...	1,000	...
Publishing Agricultural Reports	1,886	2,182	3,645	2,841	2,833
Advances to Settlers on account of Losses by Bush Fires, &c.	11,614	359	1,217	...	1,839
Rabbit and Vermin Extermination	17,585	22,756	23,005	23,123	29,524
Stock and Dairy Supervision	8,092	16,596	18,939	19,693	22,471
Scab Prevention and Stock Diseases	6,323				
Village Settlements ...	99	98	98	...	...
Labour Colonies	450	550	550	545	2,992
State Forests and Nurseries	19,103	21,003	35,759	40,399	54,061
Total	154,805	146,917	189,212	211,657	249,637
Revenue.					
Department of Agriculture ...	39,473	29,594	43,131	50,319	49,932
State Forests	53,894*	38,802	40,572	41,550	48,585

* Including licences and leases other than Agricultural.

In addition to the expenditure shown, various sums have been advanced from loans and votes for the purpose of aiding closer settlement, for the resumption of mallee lands, and for relief to farmers on account of bush fires, flood losses, and purchase of seed wheat and fodder, which advances are gradually being repaid.

The loan expenditure in 1911-12 was £889,000 on account of closer settlement, and £21,116 on account of wire netting.

Agricultural and Horticultural Societies.

Agricultural and Horticultural Societies, established on the principle of voluntary membership, and having for their object the improvement of the agricultural, pastoral, and horticultural industries, exist throughout the State. One hundred and seven agricultural societies furnished returns for the year 1912, in regard to which condensed particulars are set out below:—

Agricultural Societies, 1908 to 1912.

Societies.	Area of Grounds.	Number of Members.	Government Grant.	Total Receipts (including Government Grant).	Total Expenditure.	Bank Overdraft and Loan Liability.
	Acres.		£	£	£	£
Royal (Melbourne) ...	51	2,429	...	16,611	18,402	11,539
Ballarat	11	413	102	1,603	1,507	382
Benalla	12	381	38	1,052	929	498
Bendigo	10	303	126	2,036	2,002	..
Colac	13	340	72	1,109	1,106	166
Geelong	150	338	63	1,104	1,226	...
Hamilton	21	355	63	1,263	1,356	350
Horsham and Wimmera	28	495	55	1,015	1,620	759
Korumburra	16	259	48	811	721	586
Ovens and Murray ...	45	363	73	1,519	1,669	222
Shepparton	23	486	85	2,391	2,166	495
Others	1,394	15,220	2,112	41,700	41,365	13,186
Total, 1912 ...	1,774	21,382	2,837	72,214	74,069	28,183
Total, 1911 ...	1,741	20,879	2,708	68,962	68,606	25,865
Total, 1910 ...	1,722	19,517	2,816	63,914	63,933	24,095
Total, 1909 ...	1,649	17,583	2,598	58,246	55,212	24,609
Total, 1908 ...	1,600	16,726	2,366	55,814	56,043	29,686

The Horticultural Societies furnishing returns for 1912 numbered 46, their membership being 4,023, the receipts for the year £4,098 (including Government grant £219), the expenditure £3,868, and the liability on account of loans and bank overdraft £1,527.

Land occupied, and cultivation and live stock thereon.

Information relating to land occupied and the cultivation and live stock thereon was collected in March, of the years 1906, 1910, and 1913, but as the tabulation for 1913 was not complete at the date on which this part was sent to press, the particulars for that year have been held over, and will appear in the appendix. In 1910 land privately owned was summarized according to different sized holdings, and in instances where Crown lands were held in conjunction therewith, they were, regardless of size, scheduled with the holdings to which they were attached. The particulars are as follows:—

LAND OCCUPIED, AND CULTIVATION AND LIVE STOCK THEREON, MARCH, 1910.

Size of Holdings. (In acres.)	Privately-owned Land. Number of Holdings.	Privately-owned Land. Area occupied.	Crown Land held in conjunction with that privately owned.	Total Area occupied.	Area under— Cultivation.	Area under— Pasture, &c.
		Acres.	Acres.	Acres.	Acres.	Acres.
1 to 5 ..	3,469	10,334	30,668	41,002	3,636	37,366
6 „ 15 ..	4,420	44,810	13,247	58,057	16,306	41,751
16 „ 30 ..	4,854	107,998	82,358	190,356	35,178	155,178
31 „ 50 ..	3,866	159,155	67,217	226,372	44,272	182,100
51 „ 100 ..	6,696	514,529	248,923	763,452	128,835	634,617
101 „ 200 ..	9,208	1,389,057	528,348	1,917,405	310,579	1,606,826
201 „ 300 ..	5,422	1,362,833	459,424	1,822,257	301,370	1,520,887
301 „ 400 ..	5,904	1,998,844	1,111,022	3,109,866	473,986	2,635,880
401 „ 500 ..	2,863	1,298,733	241,206	1,539,939	317,174	1,222,765
501 „ 600 ..	2,212	1,221,823	459,916	1,681,739	319,610	1,362,129
601 „ 700 ..	2,568	1,656,850	1,138,163	2,795,013	453,050	2,341,963
701 „ 800 ..	1,249	944,343	325,423	1,269,766	239,259	1,030,507
801 „ 900 ..	1,014	867,671	179,064	1,046,735	197,293	849,442
901 „ 1,000 ..	1,173	1,123,644	467,703	1,591,347	272,677	1,318,670
1,001 „ 1,500 ..	2,583	3,175,340	1,601,051	4,776,391	748,061	4,028,330
1,501 „ 2,000 ..	1,062	1,849,446	395,788	2,245,234	339,811	1,905,423
2,001 „ 2,500 ..	514	1,153,958	467,296	1,621,254	166,520	1,454,734
2,501 „ 3,000 ..	270	750,766	913,910	1,664,676	94,535	1,570,141
3,001 „ 4,000 ..	329	1,145,013	313,530	1,458,543	149,281	1,309,262
4,001 „ 5,000 ..	150	675,665	121,539	797,204	54,330	742,874
5,001 „ 7,500 ..	161	969,101	187,402	1,156,503	50,139	1,106,364
7,501 „ 10,000 ..	78	682,878	1,210,582	1,893,460	35,240	1,858,220
10,001 „ 15,000 ..	79	977,245	121,909	1,099,154	20,385	1,078,769
15,001 „ 20,000 ..	52	904,037	14,649	918,686	13,187	905,519
20,001 „ 30,000 ..	22	564,259	508	564,767	2,952	561,815
30,001 „ 40,000 ..	15	510,762	7,580	518,342	8,324	510,018
40,001 „ 50,000 ..	5	225,438	400	225,838	579	225,259
50,001 and upwards	2	116,486	374	116,860	363	116,497
Total ..	60,240	26,400,818	10,709,200	37,110,018	4,796,912	32,313,106

LAND OCCUPIED, AND CULTIVATION AND LIVE STOCK THEREON, MARCH, 1910—*continued.*

Size of Holdings. (In Acres.)	Live Stock on Land occupied.				
	Horses.	Cattle.		Sheep.	Pigs.
		Dairy Cows.	Other Cattle.		
1 to 5 ..	3,569	4,694	3,953	5,227	1,530
6 „ 15 ..	6,293	8,843	6,436	4,981	4,033
16 „ 30 ..	8,746	13,082	10,793	11,620	5,563
31 „ 50 ..	9,535	15,796	13,193	23,332	7,255
51 „ 100 ..	21,214	46,345	37,630	83,333	20,465
101 „ 200 ..	41,077	107,001	90,587	255,577	41,797
201 „ 300 ..	33,059	78,678	77,826	341,113	27,273
301 „ 400 ..	42,472	83,726	99,060	591,634	27,757
401 „ 500 ..	25,211	41,769	54,526	404,620	13,346
501 „ 600 ..	21,547	29,676	46,354	418,181	9,148
601 „ 700 ..	26,661	31,337	52,749	587,736	9,750
701 „ 800 ..	14,513	17,228	30,384	393,252	6,096
801 „ 900 ..	12,220	14,759	27,823	379,346	4,442
901 „ 1,000 ..	14,985	15,100	31,073	514,582	4,544
1,001 „ 1,500 ..	38,625	31,654	83,122	1,509,276	9,466
1,501 „ 2,000 ..	17,686	12,576	40,445	991,389	3,526
2,001 „ 2,500 ..	9,689	6,585	25,517	714,778	1,671
2,501 „ 3,000 ..	5,234	3,143	12,842	471,681	1,055
3,001 „ 4,000 ..	7,951	5,617	22,670	761,999	1,052
4,001 „ 5,000 ..	3,734	2,358	14,516	454,566	515
5,001 „ 7,500 ..	5,204	2,939	25,705	739,027	553
7,501 „ 10,000 ..	2,510	1,187	12,944	516,204	159
10,001 „ 15,000 ..	3,148	2,041	18,240	801,495	468
15,001 „ 20,000 ..	2,635	1,165	10,037	691,049	278
20,001 „ 30,000 ..	1,069	541	4,602	409,264	92
30,001 „ 40,000 ..	1,616	460	4,924	405,540	138
40,001 „ 50,000 ..	526	148	3,039	218,683	19
50,001 and upwards	542	62	1,216	89,219	28
Total ..	381,251	578,510	862,206	12,788,704	202,019

The figures are exclusive of live stock travelling, and those in cities, towns, &c.; also of 1,571 holdings containing 975,556 acres of Crown lands not held in conjunction with any private land, on which there were 37,373 acres of cultivation, 4,641 horses, 24,200 cattle, 96,662 sheep, and 3,653 pigs. The position disclosed was that 54,918 persons holding up to 1,000 acres each of private land and occupying in the aggregate 12,700,424 acres of such land, also occupied 5,352,682 acres of Crown land—a total of 18,053,106 acres, and less than half of the total area in occupation. These occupiers, however, controlled 65 per cent. of the total cultivation, and possessed 74 per cent. of the horses, 88 per cent. of the dairy cows, 68 per cent. of the other cattle, 91 per cent. of the pigs, and 31 per cent. of the sheep.

To illustrate the uses to which the land was applied in 1906 and 1910, various percentages relating to holdings of different sizes are given for those years in the next table, which also shows the live stock carried by the holdings, reduced to their equivalent in sheep:—

CULTIVATION AND SHEEP-CARRYING CAPACITY OF LAND IN DIFFERENT DIVISIONS, MARCH, 1906 AND 1910.

Size of Holdings of Private Land. (In Acres.)	Year.	Percentage in each Division to Total of—				Live Stock Grazed reduced to Equivalent in Sheep.	
		Area Occupied.	Area under Cultivation.	Area used for Pasture, &c.	Equivalent in Sheep Grazed.	Total.	Per Acre used for Grazing, &c.
1 to 100..	1906	3·78	4·68	3·65	6·00	1,440,822	1·33
	1910	3·45	4·76	3·25	6·28	1,586,653	1·51
101 „ 320..	1906	13·02	18·81	12·20	17·73	4,259,999	1·18
	1910	13·19	17·50	12·55	17·50	4,415,168	1·09
321 „ 640..	1906	18·07	28·54	16·58	17·21	4,137,133	·84
	1910	17·58	24·65	16·53	17·00	4,290,653	·80
641 „ 1,000..	1906	12·52	17·52	11·81	11·40	2,739,991	·78
	1910	14·42	17·99	13·90	12·18	3,075,406	·68
1,001 „ 2,500..	1906	21·66	24·04	21·32	17·20	4,135,089	·66
	1910	23·29	26·15	22·87	20·10	5,074,837	·69
2,501 „ 5,000..	1906	12·15	4·31	13·27	8·30	1,994,035	·51
	1910	10·57	6·22	11·21	8·81	2,224,312	·61
5,001 „ 10,000	1906	6·04	1·06	6·74	6·52	1,566,846	·79
	1910	8·22	1·78	9·17	6·29	1,589,021	·54
10,001 and upwards	1906	12·76	1·04	14·43	15·64	3,758,546	·88
	1910	9·28	·95	10·52	11·84	2,989,460	·88
Total ..	1906	100·00	100·00	100·00	100·00	24,032,461	·81
	1910	100·00	100·00	100·00	100·00	25,245,510	·78

Horses and cattle have been reduced to an equivalent in sheep on the assumption that one head of the former will eat as much as ten, and one of the latter as much as six sheep. From this return it will be seen that 48.64 per cent. of the land occupied was in areas not exceeding 1,000 acres, and, after supplying 65 per cent. of the cultivation, contained 53 per cent. of the grazing stock; whilst holdings of over 1,000 acres supplied 54 per cent. of the total area used for grazing, and only 47 per cent. of the stock mentioned. As many of the large areas are situated in the rich Western District, which is favoured with a good annual rainfall, it requires only the introduction of labour to utilize the capacity of these lands to carry at least as many sheep per acre as are now carried on holdings of 320 acres or under. The figures show that there is sufficient land in use in Victoria to support at least thirteen million more sheep than there were in 1910. Dairying is principally carried on in the small holdings, as much as 55 per

cent. of the number of dairy cows being on holdings of a less area than 320 acres. Naturally, pigs are most numerous where dairying prevails, the proportion found on holdings of the acreage mentioned being about 41 per cent. of the total in the State. Compared with 1906, the sheep-carrying capacity per acre of the total grazing area in 1910 shows a decline, and of the various sizes of holdings, those having an area of less than 101 acres and of from 1,001 to 5,000 acres are the only ones in which an improvement is apparent. The proportionate increase of pastoral areas in estates of from 5,001 to 10,000 acres is very prominent, especially as it is accompanied by a proportionate reduction in the number of live stock grazed.

Particulars of land occupied and cultivation thereon are in the following table compared with similar information for the year 1906 :—

LAND OCCUPIED, 1906 AND 1910.

Size of Holdings (in acres).	Year.	Privately-owned Land. Number of Holdings	Privately-owned Land. Area Occupied.	Crown Land held in conjunction with that privately-owned.	Total Area Occupied.	Area under— Cultivation.	Area under— Pasture, &c.
			Acres.	Acres.	Acres.	Acres.	Acres.
1 to 100 ..	1906	19,173	721,669	554,759	1,276,428	196,580	1,079,848
	1910	23,305	836,826	442,413	1,279,239	228,227	1,051,012
101 ,, 320 ..	1906	16,121	3,459,291	937,727	4,397,018	789,330	3,607,688
	1910	17,583	3,686,498	1,209,660	4,896,158	839,664	4,056,494
321 ,, 640 ..	1906	9,319	4,497,331	1,604,280	6,101,611	1,197,536	4,904,075
	1910	9,676	4,623,339	1,900,058	6,523,397	1,182,254	5,341,643
641 ,, 1,000 ..	1906	3,876	3,164,404	1,063,166	4,227,570	735,263	3,492,307
	1910	4,354	3,553,261	1,800,551	5,353,812	863,080	4,490,732
1,001 ,, 2,500 ..	1906	3,466	5,112,200	2,200,867	7,313,067	1,009,034	6,304,033
	1910	4,159	6,178,744	2,464,135	8,642,879	1,254,392	7,388,487
2,501 ,, 5,000 ..	1906	617	2,106,732	1,996,797	4,103,529	180,884	3,922,645
	1910	749	2,571,444	1,348,979	3,920,423	298,146	3,622,277
5,001 ,, 10,000 ..	1906	220	1,567,251	471,271	2,038,522	44,347	1,994,175
	1910	239	1,651,979	1,397,984	3,049,963	85,379	2,964,584
10,001 and upwards	1906	195	4,134,067	176,916	4,310,983	43,521	4,267,462
	1910	175	3,298,227	145,420	3,443,647	45,770	3,397,877
Total ..	1906	52,987	24,762,945	9,005,783	33,768,728	4,196,495	29,572,233
	1910	60,240	26,400,818	10,709,200	37,110,018	4,796,912	32,313,106

The most noticeable alteration between 1906 and 1910 is in holdings of over 10,000 acres. The number of these has decreased by 10 per cent. and the area occupied by 20 per cent., yet there has been a small increase in the cultivation. In the case of all other sizes exhibited above there has been an increase in number and, with one exception, in area, and the only holdings which do not show an increase in cultivation are those of from 321 to 640 acres in extent.

The following tables show the land in occupation in March, 1913, in districts, and the uses to which the land was applied :—

LAND IN OCCUPATION IN EACH DISTRICT OF VICTORIA, MARCH, 1913.

(Areas of 1 acre and upwards.)

District.	Number of Occupiers.	Acres Occupied.				
		For Agricultural Purposes.	For Pasture.		Other Purposes and Unproductive	Total.
			Sown Grasses, Clover, or Lucerne.	Natural Grasses.		
Central ...	15,726	481,087	182,335	2,058,729	68,106	2,790,257
North-Central	5,860	173,913	17,886	1,822,937	26,285	2,041,021
Western ...	11,432	481,221	198,993	5,726,539	303,113	6,709,866
Wimmera ...	5,913	1,445,921	2,701	4,308,092	252,392	6,009,106
Mallee ...	4,971	1,205,552	3,580	3,473,474	898,517	5,581,123
Northern ...	11,129	1,596,024	17,217	3,560,443	24,131	5,197,815
North-Eastern	5,090	180,595	10,474	3,707,095	471,593	4,369,757
Gippsland ...	8,582	142,266	652,160	2,928,711	796,716	4,519,853
Total ...	68,703	5,706,579	1,085,346	27,586,020	2,840,853	37,218,798
	PERCENTAGE OF TOTAL OCCUPIED IN EACH DISTRICT.					
Central ...	...	17·24	6·53	73·79	2·44	100·00
North-Central	...	8·52	·88	89·31	1·29	100·00
Western ...	...	7·17	2·97	85·34	4·52	100·00
Wimmera ...	...	24·06	·05	71·69	4·20	100·00
Mallee ...	...	21·60	·06	62·24	16·10	100·00
Northern ...	...	30·71	·33	68·50	·46	100·00
North-Eastern	...	4·13	·24	84·84	10·79	100·00
Gippsland ...	...	3·15	14·43	64·79	17·63	100·00
Total ...	...	15·33	2·92	74·12	7·63	100·00
	PERCENTAGE IN EACH DISTRICT OF TOTAL IN STATE.					
Central ...	22·89	8·43	16·80	7·46	2·40	7·50
North-Central	8·53	3·05	1·65	6·61	·93	5·48
Western ...	16·64	8·43	18·33	20·76	10·67	18·03
Wimmera ...	8·61	25·34	·25	15·62	8·88	16·14
Mallee ...	7·23	21·13	·33	12·59	31·63	14·99
Northern ...	16·20	27·97	1·59	12·91	·85	13·97
North-Eastern	7·41	3·16	·96	13·44	16·60	11·75
Gippsland ...	12·49	2·49	60·09	10·61	28·04	12·14
Total ...	100·00	100·00	100·00	100·00	100·00	100·00

It will be seen from these tables that in the Northern, Wimmera, and Mallee districts, the greatest area under cultivation and the greatest proportion of cultivation to land occupied are found. About

31 per cent. of the land occupied in the Northern, and about 24 per cent. of that occupied in the Wimmera district is devoted to agriculture, and these divisions supplied 53 per cent. of the cultivation in Victoria. In the North-Central, Western, and North-Eastern districts the land occupied is largely devoted to grazing; and in Gippsland considerable attention has been given to the cultivation of grasses, 60 per cent. of all the sown grasses in the State being found in that division.

In the next table the distribution of cattle and sheep on pastoral lands in March, 1913, is given.

AREA OCCUPIED AND STOCK, 1913.

District.	Acres Occupied for—		Number of—		Stock—Equivalent of Sheep—per 100 acres used for Pasture.*
	Agriculture.	Pasture.	Cattle.	Sheep.	
Central	481,087	2,241,064	245,792	1,042,088	112
North-Central ...	173,913	1,840,823	94,417	926,835	81
Western	481,221	5,925,532	346,586	4,205,332	106
Wimmera ...	1,445,921	4,310,793	51,721	1,930,184	52
Mallee	1,205,552	3,477,054	38,118	565,882	23
Northern ...	1,596,024	3,577,660	179,128	1,516,653	72
North-Eastern ...	180,595	3,717,569	190,589	696,116	49
Gippsland ...	142,266	3,580,871	361,738	1,009,134	89
Total ...	5,706,579	28,671,366	1,508,089	11,892,224	73

* Reckoning six sheep as the equivalent of one head of cattle.

The area occupied does not include 2,840,853 acres which are mostly in an unproductive state, and horses grazing have not been allowed for in the stock. Compared with 1912 the numbers of cattle and sheep have declined in each district, the aggregate decrease in the State amounting to 139,038 cattle, and 1,965,580 sheep, representing 8½ per cent. in the case of cattle and 14 per cent. in that of sheep.

Occupations of persons settled on the land—Pastoral and dairying (Census).

The occupations of persons settled on the land are collected in the census years only in full detail. In 1901 the number of persons engaged in pastoral and dairying pursuits was 30,920, and in 1911 it was 29,260. The full particulars for the 1911 census are as follows :—

RETURN OF PERSONS ENGAGED IN PASTORAL AND DAIRYING PURSUITS, 1911.

Persons following Pastoral and Dairying Pursuits.	Employers of Labour.		In Business on their own account, but not employing labour.		Receiving Salary or Wages.		Relatives Assisting.		Indefinite.		Not at work for more than a week prior to Census.	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Grazier, pastoralist, stock breeder, and relative assisting ..	3,663	254	1,256	77	..	..	336	19	504	25	..	..
Station manager, overseer, clerk ..	..	..	..	..	639	8	..	..	21	..	35	..
Stock rider, drover, shearer, shepherd, pastoral labourer ..	42	..	69	..	5,622	6	6	1	87	..	196	..
Dairy farmer, and relative assisting	3,848	564	3,203	343	..	..	1,387	671	657	70	..	..
Dairy assistant, milker, labourer ..	..	..	..	..	4,576	163			14	..	45	1
Poultry farmer	45	15	231	73	52	3	6	8	52	18	..	..
Pig farmer	7	2	14	1	16	..	2	..	2	..	..	..
Wool classer, sorter	1	..	4	..	130	..	2	..	23	..	59	..
Stock and brands department officer	..	..	..	..	17	..	..	..	..	..	..	..
Others	8	..	15	..	27	..	..	..	11	..	8	..
Total	7,614	835	4,792	494	11,079	180	1,739	699	1,371	113	343	1

Total Males	26,938
Total Females	2,322
Grand Total	29,260

Occupations of persons settled on the land—Agricultural (Census).

In 1901 the number of persons engaged in agricultural pursuits was 95,920, and in 1911 it had fallen to 86,134. The following return gives particulars of persons mainly engaged in agricultural pursuits when the census of 1911 was taken.

RETURN OF PERSONS ENGAGED IN AGRICULTURAL PURSUITS, 1911.

Persons following Agricultural Pursuits.	Employers of Labour.		In Business on their own account, but not employing labour.		Receiving Salary or Wages.		Relatives Assisting.		Indefinite.		Not at work for more than a week prior to Census.	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Farmer and relative assisting ..	18,670	1,269	8,849	414	..	..	9,751	595	5,842	240	..	..
Farm manager, overseer	..	..	..	..	384	2	..	..	..	..	6	..
Farm servant, agricultural labourer	..	..	..	..	25,975	27	..	..	295	..	836	2
Market gardener	878	13	949	4	1,586	..	177	3	360	3	32	..
Fruit grower, orchardist	1,274	73	799	43	2,129	26	313	26	213	2	49	..
Hop, cotton, tea, coffee grower ..	2	..	2	2	6	..	1	..	3	1	..	..
Tobacco grower	11	..	41	..	29	1	..	..	5	..	..	..
Vine grower, vigneron	121	10	13	3	644	1	16	2	33	1	2	..
Sugar planter	1	..	..	..	1	..	..	..	1	..	2	..
Horticulturist, nurseryman, gardener	211	14	298	3	1,246	14	40	5	382	..	121	..
Agricultural department officer ..	..	..	..	..	170	1	..	..	..	..	..	..
Others	72	..	31	..	70	..	..	..	375	13	4	..
Total	21,240	1,379	10,982	469	32,240	72	10,298	631	7,509	260	1,052	2

Total Males	83,321
Total Females	2,813
Grand Total	86,134

Information is obtained by the collectors of agricultural statistics each year as to the number of persons ordinarily employed upon the land occupied. For the last ten years the numbers were as follows:—

NUMBER OF PERSONS EMPLOYED UPON FARMING, DAIRYING, AND PASTORAL HOLDINGS, 1903 TO 1912.

Year.	Males.	Females.	Total.
1903	87,322	48,561	135,883
1904	90,396	51,933	142,329
1905	91,336	50,982	142,318
1906	92,652	51,993	144,645
1907	93,981	51,905	145,886
1908	94,990	52,410	147,400
1909	96,873	52,782	149,655
1910	99,948	54,083	154,031
1911	100,689	55,040	155,729
1912	100,665	52,868	153,533

The number of persons ordinarily employed on any holding includes the occupier or manager, and those members of his family who actually work on it; but persons absent from their farms for the greater portion of the year following other occupations, as well as temporary hands engaged in harvesting, &c., are not included, neither are domestic servants nor cooks. It is difficult to arrive at an estimate of the extent of the temporary labour employed upon farms and pastoral holdings. In 1905 the collectors were asked to supply some information on the subject, and from the knowledge gained in this way, and particulars available from other sources it is believed that such labour may be set down as approximately equal to about 24,000 men employed continuously throughout the year.

Wages—agricultural and pastoral.

In the following return will be found particulars of the rates of wages paid (with rations) upon farms and pastoral holdings during 1912-13. The information has been furnished by the occupiers of holdings:—

WAGES, AGRICULTURAL AND PASTORAL, 1912-13.

Occupations.	Range.	Prevailing Rate.
Ploughmen	20s. to 30s. per week ..	25s. per week
Farm labourers	20s. to 30s. „ ..	22s. 6d. „
Threshing machine hands ..	8d. to 1s. per hour ..	9d. per hour
Harvest hands	5s. to 8s. per day ..	6s. 6d. per day
Milkers	15s. to 25s. per week ..	20s. per week
Maize pickers (without rations)	5d. to 7d. per bag ..	6d. per bag
Hop pickers „ „	3d. to 4d. per bushel ..	3½d. per bushel
Married couples	30s. to 50s. per week ..	35s. per week
Female servants	10s. to 20s. „ ..	15s. „
Men cooks	20s. to 40s. „ ..	27s. 6d. „
Stockmen	£52 to £78 per annum ..	£60 per annum
Shepherds	£39 to £68 „ ..	£45 „

WAGES, AGRICULTURAL AND PASTORAL, 1912-13—*continued.*

Occupations.	Range.	Prevailing Rate.
Hut keepers	£26 to £52 per annum ..	£40 per annum
Generally useful men ..	15s. to 30s. per week ..	20s. per week
Sheep washers	20s. to 35s. ,, ..	30s. ,,
Shearers, hand*	20s. to 25s. per 100 sheep	22s. 6d. per 100 sheep
,, machine* ..	20s. to 25s. ,,	22s. 6d. ,,
Bush carpenters	25s. to 60s. per week ..	40s. per week
Gardeners, market ..	20s. to 35s. ,, ..	25s. ,,
,, orchard ..	20s. to 35s. ,, ..	25s. ,,
Vineyard hands	17s. 6d. to 30s. ,, ..	20s. ,,

* It is believed that in cases of some of the highest rates rations are not found.

Area under cultivation.

In the following table figures are given showing the land under cultivation in each of the five years ended March, 1909 to 1913 :—

CULTIVATION OF PRINCIPAL CROPS, 1908-9 TO 1912-13.

Crop.	Year Ended March.				
	1909.	1910.	1911.	1912.	1913.
	Acres.	Acres.	Acres.	Acres.	Acres.
Wheat	1,779,905	2,097,162	2,398,089	2,164,066	2,085,216
Other Grain Crops ...	511,698	474,164	479,227	386,635	544,162
Root Crops	55,315	70,516	71,191	52,799	54,300
Hay	956,371	864,359	832,669	860,205	1,203,728
Green Forage ...	63,066	56,586	71,826	75,177	84,460
Vines	24,430	22,768	23,412	24,193	24,579
Orchards	54,946	56,108	57,375	59,985	63,209
Market Gardens ...	9,279	10,214	10,778	10,331	10,414
All other Crops ...	6,751	6,658	7,503	6,850	9,288
Land in Fallow ...	1,034,422	1,175,750	1,434,177	1,469,608	1,627,223
Total Cultivation	4,496,183	4,834,285	5,386,247	5,109,849	5,706,579

The area under cultivation, exclusive of permanent and artificial grasses, increased from 50 acres sown down with wheat in 1836 to 5,706,579 acres under crops of various kinds and in fallow in 1912-13. The first returns of oats, maize, potato, and tobacco crops were obtained in 1838, of barley and rye in 1839, of hay

in 1841, of green forage and vines in 1842, of peas and beans in 1849, of mangel-wurzel, carrots, parsnips, turnips, and onions in 1855-6, of garden and orchard produce in 1856-7, and of chicory, grass and clover seeds, and hops in 1867-8. Returns of land under artificial grass were first procured in 1855-6, and since that year steady progress has been made, though the area last year shows a slight decline when compared with that for 1906-7 or 1907-8. The area of land in fallow has increased very considerably in recent years, the total for 1912-13 being greater by 57 per cent. than that for 1908-9.

For the seventeen years, 1896-7 to 1912-13, the total area under cultivation, its proportion to the area of the State—56,245,760 acres—and the yearly increases or decreases, actual and centesimal, were as follows:—

AREA UNDER CULTIVATION, 1896-7 TO 1912-13.

Year ended March.	Area under Tillage (exclusive of area under Artificial Grass).		Yearly Increase (+) or Decrease (-).	
	Total.	Percentage of Area of Victoria.	Total.	Percentage.
	Acres.		Acres.	
1897 ...	2,925,416	5·20	...	...
1898 ...	3,144,574	5·59	+219,158	+7
1899 ...	3,727,765	6·63	+583,191	+19
1900 ...	3,668,556	6·52	-59,209	-2
1901 ...	3,717,002	6·61	+48,446	+1
1902 ...	3,647,459	6·48	-69,543	-2
1903 ...	3,738,873	6·65	+91,414	+3
1904 ...	4,021,590	7·15	+282,717	+8
1905 ...	4,175,614	7·42	+154,024	+4
1906 ...	4,269,877	7·59	+94,263	+2
1907 ...	4,294,553	7·64	+24,676	+0·5
1908 ...	4,126,823	7·34	-167,730	-4
1909 ...	4,496,183	8·00	+369,360	+9
1910 ...	4,834,285	8·60	+338,102	+7·5
1911 ...	5,386,247	9·58	+551,962	+11·4
1912 ...	5,109,849	9·08	-276,398	-5·1
1913 ...	5,706,579	10·15	+596,730	+11·7

The land under cultivation, including land in fallow, but excluding that under artificial grasses, was 2,925,416 acres in 1896-7, and 5,706,579 acres in 1912-13, there being an increase in the sixteen years of 2,781,163 acres, or of 95 per cent. The cultivated area for 1912-13 was 11.7 per cent. above that for the previous year. The area actually under crops of various kinds was 4,079,356 acres as against 3,640,241 in 1911-12.

Agricultural production.

The following is a statement of the production from cultivated lands for the past three years :—

AGRICULTURAL PRODUCTION, 1910-11 TO 1912-13.

Produce.	Year ended March.		
	1911.	1912.	1913.
Wheat ... ... bushels	34,813,019	20,891,877	26,223,104
Other Grain ... ... ,,	12,277,548	6,593,664	11,033,462
Root Crops ... ... tons	225,931	154,524	239,996
Hay ... ... ,,	1,292,410	1,032,288	1,572,933
Vines ... cwt. of grapes	592,438	683,250	733,579
Green Forage ... £	179,565	187,943	211,150
Orchards ... ... £	559,380	593,604	664,543
Market Gardens ... £	269,450	258,275	260,350
Other Agricultural Produce £	220,873	172,159	177,873

The principal crops grown in the State are wheat, oats, barley, potatoes, and hay.

Wheat was first grown in Victoria in 1836, and there was a general increase in the area under cultivation up to 1899-1900, when 2,165,693 acres were harvested. After this there was a reduction, and the area remained fairly uniform until 1909-10. In the succeeding year, 1910-11, the area was 2,398,089 acres, and the yield, 34,813,019 bushels, these figures establishing a record both in regard to cultivation and production of wheat.

The results in detail of the wheat harvest for the last three years are shown in the accompanying table:—

WHEAT YIELDS FOR THE SEASONS ENDED MARCH, 1911, TO MARCH, 1913, IN COUNTIES.

Districts and Counties.	Year ended March.								
	Area.			Produce.			Average per Acre.		
	1911.	1912.	1913.	1911.	1912.	1913.	1911.	1912.	1913.
	Acres.	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushls.	Bushls.	Bushls.
Central—									
Bourke ..	14,543	4,022	3,826	276,483	41,555	65,339	19·01	10·33	17·08
Grant ..	38,747	17,565	12,418	695,526	183,982	207,918	17·95	10·47	16·74
Mornington ..	968	167	219	11,926	1,368	3,132	12·32	8·19	14·30
Evelyn ..	426	77	166	6,089	318	2,362	14·29	4·13	14·23
North-Central—									
Anglesey ..	4,303	2,204	1,763	83,472	22,323	31,970	19·40	10·13	18·13
Dalhousie ..	9,114	2,301	2,320	128,773	22,557	51,580	14·13	9·80	19·69
Talbot ..	29,500	14,751	11,973	471,586	162,168	196,709	15·99	10·99	16·43
Western—									
Grenville ..	41,036	43,657	40,443	774,856	516,402	789,824	18·88	11·83	19·53
Polwarth ..	885	240	256	15,317	2,250	4,166	17·31	9·38	16·27
Heytesbury ..	49	38	42	1,515	535	823	30·92	14·08	19·60
Hampden ..	18,993	20,333	24,045	322,585	195,258	463,289	16·98	9·60	19·27
Ripon ..	98,446	68,162	83,636	1,571,914	554,715	1,669,259	15·97	8·14	19·96
Villiers ..	3,560	1,840	2,113	61,471	16,917	43,027	17·27	9·19	20·36
Normanby ..	4,614	1,915	1,342	61,007	18,114	24,352	13·22	9·46	18·15
Dundas ..	5,296	6,660	7,509	60,624	70,379	127,283	11·45	10·57	16·95
Follett ..	453	190	94	5,060	1,587	1,662	11·17	8·35	17·68
Wimmera—									
Lowan ..	180,275	160,384	143,314	1,766,688	1,592,602	1,962,154	9·80	9·93	13·69
Borung ..	336,633	315,468	274,956	5,314,410	3,760,294	4,072,629	15·79	11·92	14·81
Kara Kara ..	127,104	127,289	114,260	1,880,603	1,541,418	1,679,804	14·80	12·11	14·70
Mallee—									
Millewa ..	..	526	885	..	2,574	5,193	..	4·89	5·87
Weeah ..	46,515	66,332	91,188	582,394	328,113	914,922	12·52	4·95	10·03
Karkarooc ..	351,509	332,934	376,389	4,011,903	1,943,436	2,851,867	11·41	5·84	7·58
Tatchera ..	261,972	217,603	236,672	3,259,777	1,410,192	1,664,955	12·44	6·48	7·03
Northern—									
Gunbower ..	40,716	38,351	35,888	656,148	380,245	378,181	16·12	9·91	10·54
Gladstone ..	124,462	122,830	100,424	1,760,662	1,428,613	1,305,528	14·15	11·63	13·00
Bendigo ..	135,897	128,601	117,363	2,571,624	1,571,500	1,686,702	18·92	12·22	14·37
Rodney ..	152,827	124,905	115,776	2,326,845	1,436,022	1,690,814	15·23	11·50	14·60
Moira ..	290,409	279,761	229,836	4,718,602	3,028,612	3,337,746	16·25	10·83	14·52
North-Eastern—									
Delatite ..	18,101	12,316	11,986	296,963	123,713	234,018	16·41	10·04	19·52
Bogong ..	46,209	41,714	35,595	826,578	400,242	571,526	17·89	9·59	16·06
Benambra ..	1,763	1,341	808	34,571	13,451	14,501	19·61	10·03	17·95
Wonnangatta ..	190	135	90	2,245	840	1,743	17·27	6·22	19·37
Gippsland—									
Croajingolong ..	89	44	30	1,537	573	608	17·27	13·02	20·27
Tambo ..	275	307	301	6,546	5,232	4,957	23·80	17·04	16·47
Dargo ..	440	160	187	8,476	1,584	4,182	19·26	9·90	22·36
Tanjil ..	9,641	7,907	6,426	202,372	103,152	151,532	20·99	13·05	23·58
Buln Buln ..	2,189	986	377	35,871	9,041	6,847	16·39	9·17	18·16
Total ..	2,393,089	2,164,066	2,085,216	34,813,019	20,891,877	26,223,104	14·52	9·65	12·58

It will be observed that the area harvested for wheat last season was 78,850 acres less than in the previous one, and 312,873 acres less than in 1910-11, when the area was the highest recorded. There was a marked reduction in the acreage harvested for wheat in 1912-13 in each of the three counties in the Wimmera, and in the five counties constituting the Northern District, while there was a substantial increase in each division of the Mallee. The production for 1912-13 was 5,331,227 bushels more than in the previous year, but it was 8,589,915 bushels below the record yield of 1910-11.

The principal wheat growing districts are the Wimmera, comprising the counties of Lowan, Borung, and Kara Kara; the Mallee, comprising those of Millewa, Weeah, Karkarooc, and Tatchera; and the Northern, comprising Gunbower, Gladstone, Bendigo, Rodney, and Moira. Of the wheat harvested in 1912-13, that in the counties enumerated was 1,836,951 acres, or 88 per cent. of the total in the State, and the produce therefrom was 21,550,495 bushels, or 82 per cent. of the total. The other districts are, however, not to be regarded as unsuitable for wheat-growing, as though they provided only a small proportion of the area and produce in 1912-13, yet the average yield per acre was 60 per cent. greater than that in the counties mentioned.

The following table shows the area of each of the principal wheat-growing counties, and the cultivation for the years of first and largest record, and for last year:—

WHEAT-GROWING COUNTIES: AREA AND PRODUCTION.

District and County.	Area of County.	First Cultivation Recorded.			Largest Cultivation Recorded.			Cultivation for 1912-13.	
		Year.	Area	Average Yield per Acre.	Year.	Area.	Average Yield per Acre.	Area.	Average Yield per Acre.
	Acres.		Acres.	Bushels		Acres.	Bushels.	Acres.	Bushels.
Western Dist.—									
Ripon ..	1,125,760	1855-6	40	35·62	1910-11	98,446	15·97	83,636	19·96
Wimmera Dist.—									
Lowan ..	3,181,440	1871-2	232	16·69	1892-3	257,685	8·58	143,314	13·69
Borung ..	2,740,480	1871-2	4,590	15·59	1903-4	424,224	13·67	274,956	14·81
Kara Kara ..	1,472,640	1871-2	7,987	14·34	1911-12	127,289	12·11	114,260	14·70
Mallee Dist.—									
Weeah ..	2,562,560	1891-2	40	21·00	1912-13	91,188	10·03	91,188	10·03
Karkarooc ..	3,797,120	1879-80	233	10·87	1912-13	376,389	7·58	376,389	7·58
Tatchera ..	2,138,240	1871-2	2	12·00	1904-5	342,022	3·35	236,672	7·03
Northern Dist.—									
Gunbower ..	862,720	1871-2	181	13·36	1880-1	75,114	9·29	35,888	10·54
Gladstone ..	1,153,280	1869-70	7,988	17·46	1910-11	124,462	14·15	100,424	13·00
Bendigo ..	1,247,360	1869-70	21,038	16·26	1910-11	135,897	18·92	117,363	14·37
Rodney ..	1,087,360	1855-6	63	26·66	1910-11	152,827	15·23	115,776	14·60
Moira ..	1,986,560	1871-2	14,936	15·93	1904-5	328,811	10·87	229,836	14·52

In the next table the average yield of wheat per acre in each of these counties during the last ten years is given:—

AVERAGE YIELD OF WHEAT PER ACRE IN WHEAT-GROWING COUNTIES, 1903-4 TO 1912-13.

District and County.	Average Yield of Wheat per Acre (in Bushels) during Year ended March.									
	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Western District—										
Ripon ..	15·32	16·57	16·59	14·96	15·05	22·09	14·77	15·97	8·14	19·96
Wimmera District—										
Lowan ..	13·47	11·32	12·43	10·72	9·99	12·46	12·77	9·80	9·93	13·69
Borung ..	13·67	11·03	13·61	14·02	9·84	17·62	17·06	15·79	11·92	14·81
Kara Kara ..	15·97	12·50	14·59	14·64	10·04	17·20	14·60	14·80	12·11	14·70
Mallee District—										
Weeah ..	12·39	7·24	7·54	9·21	6·23	12·01	11·66	12·52	4·95	10·03
Karkarooc ..	10·76	3·30	5·77	8·15	2·51	9·11	10·17	11·41	5·84	7·58
Tatchera ..	11·99	3·35	5·33	9·00	1·02	6·57	10·34	12·44	6·48	7·03
Northern District—										
Gunbower ..	14·54	8·77	10·70	10·58	3·67	10·51	12·90	16·12	9·91	10·54
Gladstone ..	16·68	12·36	13·45	14·43	7·64	15·19	14·28	14·15	11·63	13·00
Bendigo ..	18·54	13·44	15·13	14·54	6·29	15·84	16·71	18·92	12·22	14·37
Rodney ..	17·40	12·40	15·37	10·38	7·32	15·88	15·21	15·23	11·50	14·60
Moira	17·18	10·87	12·71	8·99	5·61	10·77	14·49	16·25	10·83	14·52

The following table shows the area of each county, and the rise and fall in the cultivation of wheat in the Central and North-Central districts:—

WHEAT CULTIVATION IN CENTRAL AND NORTH-CENTRAL DISTRICTS.

District and County.	Area of County.	First Cultivation Recorded.		
		Year.	Area.	Average Yield per Acre.
	Acres.		Acres.	Bushels.
Central District—				
Bourke	1,101,440	1855–6	13,606	25·03
Grant	1,173,760	1855–6	12,072	25·65
Mornington	1,040,000	1855–6	943	29·57
Evelyn	750,080	1855–6	1,124	31·43
North-Central District—				
Anglesey	1,054,080	1855–6	129	28·77
Dalhousie	838,400	1855–6	3,113	26·67
Talbot	1,037,440	1855–6	445	33·68

District and County.	Largest Cultivation Recorded.			Cultivation in 1911–12.		Cultivation in 1912–13.	
	Year.	Area.	Average Yield per Acre.	Area.	Average Yield per Acre.	Area.	Average Yield per Acre.
		Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Central District—							
Bourke	1861–2	30,268	17·12	4,022	10·33	3,826	17·08
Grant	1910–11	38,747	17·95	17,565	10·47	12,418	16·74
Mornington	1860–1	3,153	14·03	167	8·19	219	14·30
Evelyn	1859–60	1,789	15·43	77	4.13	166	14·23
North-Central District—							
Anglesey	1910–11	4,303	19·40	2,204	10·13	1,763	18·13
Dalhousie	1869–70	25,124	21·47	2,301	9·80	2,620	19·69
Talbot	1871–2	76,555	13·81	14,751	10·99	11,973	16·43

In the succeeding table is shown the area under wheat, the produce, and the average yield per acre, during each of the last fifteen years :—

WHEAT RETURNS, 1898-9 TO 1912-13.

Year ended March	Area under Crop.	Produce.	Average per Acre.
	Acres.	Bushels.	Bushels.
1899	2,154,163	19,581,304	9·09
1900	2,165,693	15,237,948	7·04
1901	2,017,321	17,847,321	8·85
1902	1,754,417	12,127,382	6·91
1903	1,994,271	2,569,364	1·29
1904	1,968,599	28,525,579	14·49
1905	2,277,537	21,092,139	9·26
1906	2,070,517	23,417,670	11·31
1907	2,031,893	22,618,043	11·13
1908	1,847,121	12,100,780	6·55
1909	1,779,905	23,345,649	13·12
1910	2,097,162	28,780,100	13·72
1911	2,398,089	34,813,019	14·52
1912	2,164,066	20,891,877	9·65
1913	2,085,216	26,223,104	12·58

In 1902-3 wheat was grown on about 17,100 holdings, in 1905-6 on 18,362 holdings, in 1907-8 on 16,303 holdings, in 1909-10 on 18,593 holdings, in 1910-11 on 21,221 holdings, in 1911-12 on 18,810 holdings, and in 1912-13 on 18,737 holdings. The decline in the yield and in the average per acre, which is observed in the two years prior to 1903-4, was due to the severity of the seasons experienced all over the wheat-growing districts of the State. The yield in 1905-6 was 23,417,670 bushels, and that in 1906-7, 22,618,043 bushels; in 1907-8, as the result of an adverse season, it again fell to the level of that in 1901-2, but in 1908-9 it reached 23,345,649 bushels, and in 1909-10, 28,780,100 bushels. This quantity was greater than that for any previous year, but it was exceeded in 1910-11, when 34,813,019 bushels were produced. In addition to 2,085,216 acres harvested for grain, there were 386,370 acres of wheat cut for hay in 1912-13, so that the total area sown with wheat in that year was 2,471,586 acres. From information received from growers, it is estimated that the corresponding area for the season 1913-14 is 2,931,000 acres, or 459,414 acres more than in 1912-13, the acreage showing an increase in the Wimmera, Mallee and Northern Districts. The standard weight of wheat is reckoned to be 60 lbs. to the bushel; but the actual weight of a bushel of Victorian wheat, according to the standard fixed by the Chamber of Commerce, was 62½ lbs. in 1899-1900, 1900-1, and 1901-2; 61 lbs. in 1902-3; 60½ lbs. in 1903-4; 61½ lbs. in 1904-5; 63 lbs. in 1905-6; 62¾ lbs. in 1906-7; 62½ lbs. in 1907-8, 1908-9, 1909-10, and 1910-11, 61½ lbs. in 1911-12, and 63 lbs. in 1912-13.

Population and breadstuffs.

The following table shows, for 1898 and each subsequent year to 1906, the mean population of Victoria; the stocks of old wheat and flour on hand at the beginning of each year; the quantity of wheat grown; the quantity (after deducting imports) of wheat, flour, and biscuit exported; and the breadstuffs left over and available for home consumption. In addition to that required for food consumption, a quantity is used for seed purposes, equal, on an average, to three-quarters of a bushel per acre. The particulars given in the table cannot be brought up to date, as information in regard to imports from and exports to other States is not now available:—

POPULATION AND WHEAT RETURNS, 1898 TO 1906.

Year.	Mean Population.	Stocks of old Wheat and Flour on hand (1st January).	Wheat Harvested for Season ended March in each Year.	Wheat, Flour, and Biscuit.	
				Exported after deducting Imports.	Available for Home Consumption.
		Bushels.	Bushels.	Bushels.	Bushels.
1898 ...	1,172,950	330,224	10,580,217	1,855,951	9,054,490
1899 ...	1,186,265	1,282,902	19,581,304	10,662,011	10,202,195
1900 ...	1,193,338	2,121,700	15,237,948	7,011,242	10,348,406
1901 ...	1,202,960	1,872,000	17,847,321	10,248,093	9,471,228
1902 ...	1,207,110	1,525,288	12,127,382	3,899,246	9,753,424
1903 ...	1,208,880	903,616	2,569,364	-4,495,403*	7,968,383
1904 ...	1,207,537	173,708	28,525,579	18,616,831	10,082,456
1905 ...	1,212,517	2,609,878	21,092,139	15,427,229	8,274,788
1906 ...	1,227,072	549,930	23,417,670	17,053,652	6,913,948

* Net import.

Disposal of breadstuffs.

The manner in which the breadstuffs available for home consumption were disposed of in each of the eight years ended with 1905 was as follows:—

DISPOSAL OF BREADSTUFFS, 1898 TO 1905.

Year.	Wheat and Flour.				
	Quantity available for Home Consumption.	How disposed of—			
		Stocks on hand on 31st December.	Required for Seed.	Used for Food, &c.	
				Total.	Per Head.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1898 ...	9,054,490	1,282,902	1,770,941	6,000,647	5·12
1899 ...	10,202,195	2,121,700	1,772,602	6,307,893	5·32
1900 ...	10,348,406	1,872,000	1,696,000	6,780,406	5·68
1901 ...	9,471,228	1,525,288	1,529,249	6,416,691	5·33
1902 ...	9,753,424	903,616	1,616,946	7,232,862	5·99
1903 ...	7,968,383	173,708	1,626,954	6,167,721	5·10
1904 ...	10,082,456	2,609,878	1,807,351	5,665,227	4·69
1905 ...	8,274,788	549,930	1,705,182	6,019,676	4·96

Except in the years 1896 and 1903, the breadstuffs produced in the thirty-five years ended with 1912 were more than sufficient to supply home consumption. Wheat was therefore exported each year, with these two exceptions.

Stocks of wheat and flour.

No information is obtainable as to the wheat imported from or exported to other States, and this makes it difficult to account for the disposal of that harvested in 1912-13. It is estimated, however, that about 9,500,000 bushels are required locally for food and seed, which will leave nearly 17,000,000 bushels of Victorian wheat for export during the year. Information as to the stocks of wheat and flour on hand on 30th June, 1913, has been received from holders, and is as follows:—

WHEAT AND FLOUR ON HAND, 30TH JUNE, 1913.

Where Located.	Quantity in Bushels.		
	Wheat.	Flour (equivalent in Wheat).	Total.
Railway Stations and in transit ..	167,790	71,675	239,465
Sites leased from Railways	4,189,509	57,438	4,246,947
Mills and Stores (other than on Railways,	3,428,318	456,575	3,884,893
Farms	995,056	...	995,056
Total	8,780,673	585,688	9,366,361

Wheat production of the world.

The wheat production of the world has increased very considerably in recent periods, and amounted to the record of 3,759,533,000 bushels in 1912, as against 3,540,717,000 bushels in the previous year, and 3,182,105,000 bushels in 1908. On the average of the last five years the production was 3,525 million bushels as compared with a yearly average yield of 3,250 million bushels in 1903-7, and 2,884 million bushels in the period 1898-1902. The production and

the yield per acre for all countries of commercial importance are given in the subjoined table for the average of the years 1908 to 1912. The information (excepting that for Australasia) is based upon figures appearing in the United States Year Book of Agriculture. The countries are arranged according to their aggregate production :—

WHEAT PRODUCTION OF THE WORLD.

Country.	Yearly Average for 1908–12.		Country.	Yearly Average for 1908–12.	
	Production (Bushels).	Bushels per Acre.		Production (Bushels).	Bushels per Acre.
Russia	674,042,000	9·8	Persia	16,000,000	...
United States ...	666,935,600	14·3	Servia	14,498,800	15·4
British India ...	322,945,600	11·7	Belgium ...	14,012,200	36·5
France	316,324,400	19·6	Mexico ...	11,195,200	4·3
Austria-Hungary	233,720,200	18·7	Portugal ...	8,349,600	6·9
Italy	170,826,400	14·3	New Zealand ...	7,710,500	29·8
Canada	168,864,400	19·3	Uruquay ...	7,708,200	11·3
Argentina ...	158,366,000	10·4	Greece ...	7,400,000	...
Germany ...	145,591,600	30·8	Sweden ...	7,372,200	30·9
Spain	131,960,200	13·9	Tunis	5,695,200	4·9
Roumania ...	80,994,600	17·4	Netherlands ...	4,746,200	34·6
England and Wales	57,082,200	32·4	Western Australia	4,249,100	9·6
Bulgaria ...	40,762,800	15·6	Denmark ...	4,152,000	41·5
Turkey (Asia Minor only)	35,000,000	...	Switzerland ...	3,275,000	...
Egypt	32,533,800	25·0	South Africa ...	2,500,000	...
Algeria	32,020,400	9·6	Scotland ...	2,248,600	41·4
Japan	24,439,800	21·0	Ireland ...	1,636,600	34·8
Victoria ...	23,986,300	11·7	Queensland ...	955,100	11·1
South Australia ...	21,672,900	11·2	Tasmania ...	783,800	21·0
New South Wales	21,280,600	11·5	Norway ...	308,600	24·9
Turkey in Europe	19,492,400	18·4	Other Countries	2,731,200	...
Chili	18,890,400	18·7	Grand Total	3,525,260,700	...

On the average of the past five years the quantity of wheat produced in Australia represented about 2 per cent. of the yield for the world. The return per acre is greatest in highly cultivated European countries, being 41 bushels in Denmark, 36 in Belgium, 34 in The Netherlands, nearly 33 in the United Kingdom, and 30 in Germany, as compared with 19 in Canada, 14 in the United States, 11 in Australia, and 10 in Argentina.

Oats.

In 1912-13 the area harvested for oats in Victoria was 439,242 acres, from which a yield of 8,323,639 bushels was obtained, giving an average of 18.95 bushels to the acre. The following return shows the harvest results for this crop for the last fifteen years :—

OATS GROWN, 1898-9 TO 1912-13.

Year ended March.	Area under Crop.	Produce.	Average per Acre.
	Acres.	Bushels.	Bushels.
1899	266,159	5,523,419	20·75
1900	271,280	6,116,046	22·55
1901	362,689	9,582,332	26·42
1902	329,150	6,724,900	20·43
1903	433,489	4,402,982	10·16
1904	433,638	13,434,952	30·98
1905	344,019	6,203,429	18·03
1906	312,052	7,232,425	23·18
1907	380,493	8,845,654	23·25
1908	398,749	5,201,408	13·04
1909	419,869	11,124,940	26·50
1910	384,226	7,913,423	20·60
1911	392,681	9,699,127	24·70
1912	302,238	4,585,326	15·17
1913	439,242	8,323,639	18·95

In addition to the area shown for last season, there were 790,268 acres of oats cut for hay, so that the total area sown with oats in 1912-13 was 1,229,510 acres. In August, 1913, it was estimated that the area under this grain for 1913-14 was 1,253,600 acres, or an increase of 24,090 acres as compared with the year 1912-13. Imports into Victoria from oversea countries during 1912 included 1,233,620 bushels of oats, as well as 64,151 lbs. of oatmeal, whilst in the same year there were exported from Victoria to these countries 95,670 bushels of oats and 6,561 lbs. of oatmeal.

Barley.

The area under barley in 1912-13 was 71,631 acres, of which 52,311 were under malting, and 19,320 under other barley. There is a remarkable fluctuation in the area of land sown with barley, which seems strange, seeing that the market for this product is

uniformly good. The figures in the table given below show that the yield per acre in 1912-13 was exceeded in only three seasons during the last fifteen years:—

CULTIVATION OF BARLEY, 1898-9 TO 1912-13.

Year ended March.	Area under Crop.		Produce.		Average per Acre.		
	Malting.	Other.	Malting.	Other.	Malting.	Other.	Total.
	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1899	33,584	14,275	776,785	335,782	23·13	23·52	23·25
1900	65,970	13,603	1,197,948	268,140	18·16	19·71	18·42
1901	49,723	9,130	1,003,477	212,001	20·18	23·22	20·65
1902	25,480	6,943	527,564	166,287	20·71	23·95	21·40
1903	26,436	11,280	394,877	166,267	14·94	14·74	14·88
1904	33,586	14,174	878,721	339,282	26·17	23·80	25·50
1905	30,799	15,290	575,505	298,594	18·69	19·53	18·97
1906	26,279	14,659	645,456	416,683	24·56	28·43	25·95
1907	30,052	22,764	674,043	581,399	22·43	25·54	23·77
1908	41,940	21,134	747,315	311,980	17·82	14·76	16·79
1909	42,882	21,766	1,013,384	497,797	23·63	22·87	23·38
1910	38,762	19,841	658,105	365,279	16·98	18·41	17·46
1911	30,609	22,078	804,893	535,494	26·30	24·25	25·44
1912	36,748	16,793	725,803	298,781	19·75	17·79	19 14
1913	52,311	19,320	1,269,634	474,893	24·27	24·58	24·35

During 1912, 1,332,974 bushels of barley were used locally in the production of 1,312,531 bushels of malt.

Potatoes.

The greatest area of land planted with potatoes was 62,904 acres in 1910-11; the next being 62,390 acres in 1909-10. The highest yield was 204,155 tons in 1890-1, the next, 200,523 tons in 1891-2. The yield in 1912-13 was 191,112 tons, which is the highest return for a single year since 1894-5. The following table shows the potato returns for the last fifteen years:—

POTATOES GROWN, 1898-9 TO 1912-13.

Year ended June.	Area under Crop.	Produce.	Average per Acre.
	Acres.	Tons.	Tons.
1899	41,252	161,142	3·91
1900	55,469	173,381	3·13
1901	38,477	123,126	3·20
1902	40,058	125,474	3·13
1903	49,706	168,759	3·40
1904	48,930	167,736	3·43
1905	46,912	92,872	1·98
1906	44,670	115,352	2·58
1907	55,372	166,839	3·01
1908	54,149	135,110	2·50
1909	47,903	152,840	3·19
1910	62,390	174,970	2·80
1911	62,904	163,312	2·60
1912	47,692	119,092	2·50
1913	47,575	191,112	4·02

The yield in 1912-13 was equal to 4.02 tons per acre, which was the highest recorded for the past twenty-five years.

Hay.

Statistics of the hay crop were collected as far back as 1841, when 450 acres returned 900 tons. The greatest area of hay, and the maximum production since that date were in 1912, when 1,203,728 acres were cut for 1,572,933 tons; the next highest record in production was in 1908, when 1,415,746 tons were produced. The quantity of straw returned for the season 1912-13 was 87,839 tons. The following is a return of the hay crop for each of the last fifteen years :—

HAY RETURNS, 1898 TO 1912.

Year.	Area under Crop.	Produce.	Average per Acre.
	Acres.	Tons.	Tons.
1898	565,345	723,299	1·28
1899	450,189	596,193	1·32
1900	502,105	677,757	1·35
1901	659,239	884,369	1·34
1902	580,884	601,272	1·04
1903	733,353	1,233,063	1·68
1904	452,459	514,316	1·14
1905	591,771	864,177	1·46
1906	621,139	881,276	1·42
1907	682,194	682,370	1·00
1908	956,371	1,415,746	1·48
1909	864,359	1,186,738	1·37
1910	832,669	1,292,410	1·55
1911	860,205	1,032,288	1·20
1912	1,203,728	1,572,933	1·31

Hay making is largely confined to oaten crops, as of the total hay produced last season there were 1,099,436 tons of oaten hay, equal to 1.39 tons per acre harvested, 438,829 tons of wheaten hay, or 1.14 tons per acre, and 34,668 tons of hay made from lucerne and other crops, equal to 1.28 tons per acre. The average return per acre for all classes of hay was greater in 1912 than in the previous year, but it was less than that for 1908, 1909, and 1910.

The five principal crops.

The area under the five principal crops during each of the last thirteen years, the production of these crops, and the proportion of each to the population, are exhibited in the following table. It is interesting to observe the variations per head of the population in the areas

under crop, and in the yields during the period covered by the table:—

AREA, PRODUCTION, AND AVERAGES PER HEAD OF POPULATION OF FIVE PRINCIPAL CROPS, 1900-1 TO 1912-13.

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	AREA.				
	Acres.	Acres.	Acres.	Acres.	Acres.
1901	2,017,321	362,689	58,853	38,477	502,105
1902	1,754,417	329,150	32,423	40,058	659,239
1903	1,994,271	433,489	37,716	49,706	586,884
1904	1,968,599	433,638	47,760	48,930	733,353
1905	2,277,537	344,019	46,089	46,912	452,459
1906	2,070,517	312,052	40,938	44,670	591,771
1907	2,031,893	380,493	52,816	55,372	621,135
1908	1,847,121	398,749	63,074	54,149	682,194
1909	1,779,905	419,869	64,648	47,903	956,371
1910	2,097,162	384,226	58,603	62,390	864,359
1911	2,398,089	392,681	52,687	62,904	832,669
1912	2,164,066	302,238	53,541	47,692	860,205
1913	2,085,216	439,242	71,631	47,575	1,203,728
	PRODUCTION.				
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1901	17,847,321	9,582,332	1,215,478	123,126	677,757
1902	12,127,382	6,724,900	693,851	125,474	884,369
1903	2,569,364	4,402,982	561,144	168,759	601,272
1904	28,525,579	13,434,952	1,218,003	167,736	1,233,063
1905	21,092,139	6,203,429	874,099	92,872	514,316
1906	23,417,670	7,232,425	1,062,139	115,352	864,177
1907	22,618,043	8,845,654	1,255,442	166,839	881,276
1908	12,100,780	5,201,408	1,059,295	135,110	682,370
1909	23,345,649	11,124,940	1,511,181	152,840	1,415,746
1910	28,780,100	7,913,423	1,023,384	174,970	1,186,738
1911	34,813,019	9,699,127	1,340,387	163,312	1,292,410
1912	20,891,877	4,585,326	1,024,584	119,092	1,032,288
1913	26,223,104	8,323,639	1,744,527	191,112	1,572,933
	AREA PER HEAD OF POPULATION.				
	Acres.	Acres.	Acres.	Acres.	Acres.
1901	1·69	·30	·05	·03	·42
1902	1·45	·27	·03	·03	·54
1903	1·65	·36	·03	·04	·48
1904	1·62	·36	·04	·04	·61
1905	1·88	·28	·04	·04	·37
1906	1·70	·26	·03	·04	·49
1907	1·66	·31	·04	·04	·51
1908	1·47	·32	·05	·04	·54
1909	1·40	·33	·05	·04	·75
1910	1·63	·30	·05	·05	·67
1911	1·83	·30	·04	·05	·64
1912	1·62	·23	·04	·04	·64
1913	1·54	·32	.05	·03	·89

AREA, PRODUCTION, AND AVERAGES PER HEAD OF POPULATION OF FIVE PRINCIPAL CROPS, 1900-1 TO 1912-13—*continued.*

Year ended March.	Wheat.	Oats.	Barley.	Potatoes.	Hay.
	PRODUCTION PER HEAD OF POPULATION.				
	Bushels.	Bushels.	Bushels.	Tons.	Tons.
1901 ..	14·91	8·00	1·02	·10	·57
1902 ..	10·01	5·56	·57	·10	·73
1903 ..	2·12	3·63	·46	·14	·50
1904 ..	23·60	11·11	1·01	·14	1·02
1905 ..	17·47	5·14	·72	·08	·42
1906 ..	19·22	5·94	·87	·10	·71
1907 ..	18·43	7·21	1·02	·14	·72
1908 ..	9·62	4·13	·84	·11	·54
1909 ..	18·33	8·74	1·19	·12	1·11
1910 ..	22·42	6·16	·80	·14	·92
1911 ..	26·63	7·42	1·03	·13	·99
1912 ..	15·62	3·43	·77	·09	·77
1913 ..	19·36	6·15	1·29	·14	1·16

The next table compares last season's yields of the principal crops with those of the three previous seasons, and the averages of the ten years ended in March, 1907.

AVERAGE YIELD PER ACRE OF PRINCIPAL CROPS, 1897-8 TO 1906-7, 1909-10, 1910-11, 1911-12, AND 1912-13.

Crop.	Yield per Acre.				
	Average of Ten Years, 1897-8 to 1906-7.	1909-10.	1910-11.	1911-12.	1912-13.
Wheat ... bushels	8·64	13·72	14·52	9·65	12·58
Oats ... ... ,,	21·26	20·60	24·70	15·17	18·95
Barley—Malting ,,	20·62	16·98	26·30	19·75	24·27
,, Other... ,,	23·16	18·41	24·25	17·79	24·58
,, Total ... ,,	21·32	17·46	25·44	19·14	24·35
Potatoes ... tons	2·93	2·80	2·60	2·50	4·02
Hay—Wheaten ,,	1·16	1·33	1·39	1·17	1·14
,, Oaten, &c. ,,	1·42	1·38	1·61	1·21	1·39
,, Total ... ,,	1·33	1·37	1·55	1·20	1.31

Except in the case of wheaten hay the yields per acre of the principal crops for 1912-13 were higher than for the previous year.

The percentage of total area under the principal crops in each district during last season was as follows:—

PERCENTAGE OF AREA IN EACH DISTRICT TO TOTAL AREA UNDER EACH OF THE PRINCIPAL CROPS, 1912-13.

District.	Percentage in each District of Area under—						
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.	Fallow.
Central	·80	8·24	45·48	42·44	20·78	32·80	3·03
North-Central	·78	6·14	7·63	20·47	6·99	3·28	1·45
Western	7·65	13·91	18·05	19·33	12·61	7·96	4·19
Wimmera	25·54	26·13	1·85	1·82	17·96	2·53	35·30
Mallee	33·82	14·42	3·60	·02	8·91	8·96	18·83
Northern	28·74	23·12	10·30	·47	22·70	16·87	35·35
North-Eastern	2·32	5·92	1·28	4·62	4·77	7·96	1·67
Gippsland	·35	2·12	11·81	10·83	5·28	19·64	·18

NOTE.—For counties contained in each district, see table on page 681.

This statement shows that during last season 88 per cent. of the area under wheat was in the Wimmera, Mallee, and Northern districts; over 49 per cent. of that under oats was in the Wimmera and Northern districts; 45 per cent. of that under barley was in the Central district; and 82 per cent. of that under potatoes was in the Central, North-Central, and Western districts. Hay was more uniformly cultivated over the whole State, though the proportion was somewhat small in the North-Central, Mallee, North-Eastern, and Gippsland districts. The Central district accounted for about one-third of the area under minor crops, principally through a much larger area being used for gardens and orchards and for peas and beans than in other portions of the State Naturally, the fallow land is confined to the wheat-growing districts.

The area under the principal crops in proportion to the cultivation in each district during last season was as follows:—

PERCENTAGE OF AREA UNDER PRINCIPAL CROPS TO TOTAL CULTIVATION IN EACH DISTRICT, 1912-13.

District.	Percentage of Total Cultivation under—						
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.	Fallow.
Central	3·46	7·53	6·77	4·20	52·00	15·81	10·23
North-Central	9·40	15·50	3·14	5·60	48·37	4·38	13·61
Western	33·14	12·69	2·69	1·91	31·55	3·84	14·18
Wimmera	36·83	7·94	·09	·06	14·95	·41	39·72
Mallee	58·49	5·25	·22	·00	8·90	1·72	25·42
Northern	37·55	6·36	·46	·02	17·12	2·45	36·04
North-Eastern	26·84	14·40	·51	1·22	31·76	10·23	15·04
Gippsland	5·15	6·55	5·95	3·62	44·65	32·01	2·07
Total of Victoria ..	36·55	7·70	1·26	·83	21·09	4·06	28·51

NOTE.—For counties contained in each district, see table on page 681.

It is apparent that the area cultivated was confined mainly to wheat in the Wimmera, Mallee, and Northern districts, and to wheat and hay in the Western and North-Eastern districts; largely to hay in the Central and North-Central districts, and to hay and minor crops in the Gippsland district.

In Victoria the proportion of the land under each crop to the total area under tillage during each of the last fifteen years was as stated hereunder:—

PROPORTION TO TOTAL CULTIVATION OF LAND UNDER EACH CROP, 1898-9 TO 1912-13.

Year ended March—	Proportionate Area to Total Cultivated Land of— (Exclusive of Area under Artificial Grass.)						
	Wheat.	Oats.	Barley.	Potatoes.	Hay.	Other Crops.	Fallow.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1899	57·78	7·14	1·28	1·11	15·17	3·64	13·88
1900	59·04	7·39	2·17	1·51	12·27	3·74	13·88
1901	54·28	9·76	1·58	1·03	13·51	3·62	16·22
1902	48·09	9·02	·89	1·10	18·08	4·13	18·69
1903	53·34	11·59	1·01	1·33	15·54	4·02	13·17
1904	48·95	10·78	1·19	1·22	18·24	3·90	15·72
1905	54·54	8·24	1·10	1·12	10·84	3·71	20·45
1906	48·49	7·30	·96	1·05	13·86	3·75	24·59
1907	47·31	8·86	1·23	1·29	14·46	3·77	23·08
1908	44·76	9·66	1·53	1·31	16·53	4·54	21·67
1909	39·59	9·34	1·44	1·03	21·27	4·29	23·01
1910	43·38	7·95	1·21	1·29	17·88	3·97	24·32
1911	44·52	7·29	·98	1·17	15·46	3·95	26·63
1912	42·35	5·91	1·05	·93	16·84	4·16	28·76
1913	36·55	7·70	1·26	·83	21·09	4·06	28·51

It is shown on page 679 that during the period covered by this table, the area under cultivation had steadily increased. By the figures in the table above it would seem that the actual area under wheat has not made anything like a corresponding increase. If, however, it be taken in conjunction with land in fallow which is mainly used for wheat cropping, it will be observed that in proportion to the total area under cultivation, that used for wheat has been fairly uniform in the last fifteen years, but that in recent years the practice to fallow preparatory to sowing has grown considerably.

The following information regarding prices in February and March, except that relating to potatoes, has been procured direct from the growers. The table gives the average price for each of the last fifteen years:— Prices of agricultural produce.

PRICES OF PRODUCE, 1899 TO 1913.

Year.	Average Price in February and March.							
	Wheat.	Oats.	Barley.		Hay.	Potatoes.		
			Malting.	Other.		Early Crop.	Main Crop (after March).
	Per bushel.	Per bushel	Per bushel.	Per bushel.	Per ton.	Per ton.	Per ton.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1899	2 2	1 7¾	4 2½	2 2½	34 5	73 0	36 5
1900	2 5	2 1	3 2½	2 3½	40 9	41 11	26 11
1901	2 5¾	1 6½	2 10¾	1 11¼	39 4	73 11	55 10
1902	2 10¼	2 4	3 9½	2 9¼	55 5	77 7	84 4
1903	6 0	3 2¾	4 5¾	3 8	100 1	91 3	47 1
1904	2 8	1 1½	2 10½	1 9½	27 2	52 6	26 1
1905	2 11½	1 6	3 2½	2 1	33 6	110 0	84 0
1906	2 10½	1 10½	3 11	2 8½	38 0	115 6	101 5
1907	2 9	1 10¼	4 2	2 2¾	38 2	59 1	37 6
1908	4 0½	3 0½	4 11½	3 7	88 7	70 4	54 11
1909	3 9¼	1 9¼	3 9¾	2 5	46 0	80 0	51 0
1910	3 9¾	1 11¾	3 8¼	2 4¾	41 0	78 0	57 0
1911	3 2	1 10¼	4 3½	2 0½	38 0	82 0	63 0
1912	3 4¾	2 10¾	5 7	3 11¼	62 0	116 0	101 0
1913	3 3¼	2 3½	4 1	3 1	51 0	116 0	66 0

In Melbourne the price of wheat throughout last year was fairly good, ranging from 3s. 6½d. to 4s. 7¼d. per bushel. The latter rate was quoted in the month of November, and the former in December. The highest and lowest prices in Melbourne during each month in 1911 and 1912 were as follows:—

PRICES OF WHEAT IN MELBOURNE, 1911 AND 1912.

Month.	Price per Bushel.			
	1911.		1912.	
	Highest.	Lowest.	Highest.	Lowest.
	s. d.	s. d.	s. d.	s. d.
January ...	3 8	3 6½	3 8½	3 7½
February ...	3 6	3 4½	3 10½	3 8½
March	3 3	3 2	3 11	3 8
April	3 6	3 5½	4 3	3 11½
May	3 7	3 3	4 4½	4 3
June	3 5	3 4	4 3	4 2
July	3 5	3 3½	4 2	4 1
August	3 8	3 5½	4 4	4 1½
September ...	3 8¼	3 6	4 4	4 3½
October	3 8½	3 6	4 6½	4 3½
November ...	3 8½	3 6	4 7¼	4 2
December ...	3 8	3 7	4 3	3 6½

Yield of crops in Australasia.

The following return shows the yield of the principal crops in the various Australian States and New Zealand for each of the ten years ended March, 1913:—

YIELD OF PRINCIPAL CROPS IN AUSTRALASIA, 1903-4 TO 1912-13.

Year ended March.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
WHEAT.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1904 ...	28,525,579	27,334,141	2,436,799	13,209,465	1,855,460	767,398	7,891,654
1905 ...	21,092,139	16,464,415	2,149,663	12,023,172	2,013,237	792,956	9,123,673
1906 ...	23,417,670	20,737,200	1,137,321	20,143,798	2,308,305	776,478	6,798,934
1907 ...	22,618,043	21,817,938	1,108,902	17,466,501	2,758,567	651,408	5,605,252
1908 ...	12,100,780	9,155,884	693,527	19,135,557	2,925,690	644,235	5,567,139
1909 ...	23,345,649	15,483,276	1,202,799	19,397,672	2,460,823	700,777	8,772,790
1910 ...	28,780,100	28,532,029	1,571,589	25,133,851	5,602,368	793,660	8,661,100
1911 ...	34,813,019	27,913,547	1,022,373	24,344,740	5,897,540	1,120,744	8,273,926
1912 ...	20,891,877	25,318,092	285,109	20,352,720	4,358,904	659,615	8,290,221
1913 ...	26,223,104	32,475,813	1,975,505	21,496,216	9,168,594	630,315	5,179,626
OATS.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1904 ...	13,434,952	1,252,156	70,713	902,936	255,300	1,621,950	15,107,237
1905 ...	6,203,429	652,646	15,137	555,696	226,318	1,178,819	14,553,611
1906 ...	7,232,425	883,081	5,858	869,146	283,987	1,200,024	12,707,982
1907 ...	8,845,654	1,404,574	28,884	896,166	457,155	1,979,574	11,201,789
1908 ...	5,201,408	851,776	9,900	874,388	721,753	1,526,002	15,021,861
1909 ...	11,124,940	1,119,558	38,811	1,280,235	739,303	1,946,010	18,906,788
1910 ...	7,913,423	1,966,586	50,018	1,209,131	1,248,162	2,347,548	13,804,000
1911 ...	9,699,127	1,702,706	50,469	1,136,618	776,233	2,063,303	10,093,564
1912 ...	4,585,326	1,155,164	5,783	1,349,480	961,385	1,504,633	10,118,917
1913 ...	8,323,639	1,670,181	82,420	1,673,508	2,105,812	2,257,258	13,583,924
BARLEY.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1904 ...	1,218,003	174,147	510,557	487,920	51,487	212,459	1,160,504
1905 ...	874,099	266,781	331,772	346,718	37,332	163,194	1,128,164
1906 ...	1,062,139	111,266	61,816	505,916	49,497	93,664	1,024,045
1907 ...	1,255,442	152,739	158,283	491,246	48,827	141,895	1,035,346
1908 ...	1,059,295	75,148	64,881	566,937	76,205	149,186	1,163,406
1909 ...	1,511,181	166,538	137,667	825,740	74,433	158,645	1,938,452
1910 ...	1,023,384	272,663	193,586	691,424	101,673	153,654	1,304,000
1911 ...	1,340,387	82,005	83,621	544,471	33,566	142,318	920,536
1912 ...	1,024,584	130,998	15,369	702,855	37,011	148,009	927,112
1913 ...	1,744,527	338,179	146,847	1,318,734	93,418	265,908	1,377,610
POTATOES.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1904 ...	167,736	56,743	17,649	31,415	4,315	168,419	208,787
1905 ...	92,872	48,754	19,231	19,521	5,614	110,547	134,608
1906 ...	115,352	49,889	11,308	20,328	6,297	64,606	123,402
1907 ...	166,839	114,856	15,830	22,277	5,028	182,323	169,875
1908 ...	135,110	55,882	13,177	20,263	5,671	145,483	142,999
1909 ...	152,840	71,794	11,550	21,588	6,695	121,605	195,206
1910 ...	174,970	100,143	13,544	18,569	5,948	73,862	180,500
1911 ...	163,312	121,033	15,632	23,920	5,864	70,090	138,025
1912 ...	119,092	75,166	13,087	22,668	9,312	62,164	141,510
1913 ...	191,112	84,232	16,386	33,078	13,558	72,565	147,689
HAY.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1904 ...	1,233,063	816,810	136,117	479,723	119,156	115,513	154,334*
1905 ...	514,316	366,293	80,662	294,252	113,794	73,457	157,632*
1906 ...	864,177	459,182	56,829	435,546	139,380	90,077	161,498*
1907 ...	881,276	621,846	94,343	398,866	158,112	104,797	140,402*
1908 ...	682,370	376,800	77,601	376,170	137,511	98,406	160,870*
1909 ...	1,415,746	730,014	92,947	591,141	170,008	137,518	173,134*
1910 ...	1,186,738	981,201	96,854	574,475	195,182	118,746	†
1911 ...	1,292,410	843,044	151,252	595,064	178,891	115,190	†
1912 ...	1,032,288	728,533	94,553	605,239	299,695	107,684	†
1913 ...	1,572,933	1,089,502	119,867	714,766	255,751	183,079	†

* Estimated. † No Information.

Except in the case of the Tasmanian wheat return and the Western Australian hay return the yields of the five principal crops in all the States were greater in 1912-13 than in the previous year. Other crops.

The area under other than principal crops and the production since March, 1907, are shown in the subjoined table:—

OTHER THAN PRINCIPAL CROPS, 1907-8 TO 1912-13.

Crop.	1907-8.		1908-9.		1909-10.	
	Area.	Production.	Area.	Production.	Area.	Production.
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Maize	10,844	508,761	14,004	650,462	19,112	1,158,031
Rye	1,441	21,966	2,024	32,504	2,309	26,070
Peas and Beans ..	13,613	213,818	11,153	197,807	9,824	145,742
		Tons.		Tons.		Tons.
Mangel-wurzel ..	1,184	14,295	1,370	15,048	1,119	14,116
Beet, Carrots, Parsnips, and Turnips	496	3,650	702	4,541	573	4,215
Onions	4,240	22,649	5,340	24,384	6,434	31,715
Green Forage ..	59,897	..	63,066	..	56,586	..
		Bushels.		Bushels.		Bushels.
Grass and Clover Seeds ..	1,076	10,685	1,741	18,161	1,595	13,160
		Cwt.		Cwt.		Cwt.
Hops	248	1,179	189	1,094	140	882
Tobacco ..	345	2,764	413	2,647	321	2,704
Vines—Grapes ..	26,495	535,804	24,430	561,679	22,768	548,828
Flax	1,263	60 fibre 2,710 seed	190	6 fibre 153 seed	1,213	676 fibre 1,515 seed
Gardens and Orchards ..	63,133	..	64,225	..	66,322	..
Minor Crops ..	2,982	..	4,218	..	3,389	..
Land in Fallow ..	894,300	..	1,034,422	..	1,175,750	..
Artificial Grasses	1,095,471	..	1,029,711	..	988,671	..

Crop.	1910-11.		1911-12.		1912-13.	
	Area.	Production.	Area.	Production.	Area.	Production.
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Maize	20,151	982,103	18,223	792,660	19,886	715,299
Rye	2,640	32,647	1,098	9,981	1,428	17,141
Peas and Beans ..	11,068	223,284	11,535	181,113	11,875	232,856
		Tons.		Tons.		Tons.
Mangel-wurzel ..	1,254	17,654	797	9,568	1,121	14,615
Beet, Carrots, Parsnips, and Turnips	872	7,481	658	4,953	627	5,628
Onions	6,161	37,484	3,652	20,911	4,977	28,641
Green Forage ..	71,826	..	75,177	..	84,460	..
		Bushels.		Bushels.		Bushels.
Grass and Clover Seeds	1,295	16,262	1,188	9,505	2,429	23,206
		Cwt.		Cwt.		Cwt.
Hops	121	937	122	777	131	1,387
Tobacco ..	329	1,090	356	3,686	138	†
Vines—Grapes ..	23,412	592,438	24,193	683,250	24,579	733,579
Flax	600	748 fibre 2,457 seed	443	1,327 fibre 1,958 seed	648	1,189 fibre 4,536 seed
Gardens and Orchards ..	68,153	..	70,316	..	73,623	..
Minor Crops ..	5,158	..	4,741	..	5,942*	..
Land in Fallow ..	1,434,177	..	1,469,608	..	1,627,223	..
Artificial Grasses	991,195	..	1,041,772	..	1,085,346	..

* For details see page 707. † Not available.

Maize.

In the year 1901-2 there were 10,020 acres under maize, from which a return of 615,472 bushels was obtained. After that year the area of land under this crop was fairly constant until 1909-10, when it was increased to 19,112 acres, which produced 1,158,031 bushels. In 1910-11 the area was further increased to 20,151 acres, but the production was only 982,103 bushels. The area declined to 18,223 acres and the produce to 792,660 bushels in the following season. In 1912-13 the area increased to 19,986 acres, but the production fell to 715,299 bushels of which 179,905 were grown in Tanjil, 149,380 in Tambo, 146,207 in Dargo, 135,729 in Croajingolong, 23,722 in Buln Buln, 22,627 in Delatite, 18,653 in Bogong, 10,901 in Benambra, 10,390 in Mornington, and 8,436 in Grant. The maize production in the ten counties mentioned represented 99 per cent. of the total for the State.

Rye.

The area under rye in 1912-13 was 1,428 acres, from which 17,141 bushels of grain were obtained, the former being nearly 26 per cent., and the latter 30 per cent. below the average of the preceding five years. Last season rye was grown throughout the State, except in the counties of Evelyn, Heytesbury, Borung, Millewa, Weeah, Karkarooc, Tatchera, and Gunbower. In Delatite the quantity yielded was 4,343 bushels, in Bogong 2,740 bushels, in Talbot 1,993 bushels, and in Benambra 1,533 bushels. In five other counties—Bourke, Grant, Anglesey, Normanby, and Dundas the return was between 500 and 800 bushels.

Peas and beans.

The area under peas and beans increased from 8,297 acres in 1901-2 to 12,253 acres in 1905-6, and to 13,613 acres in 1907-8; there was a decline in 1909-10 to 9,824 acres, and a partial recovery in 1910-11 to 11,068 acres. In 1912-13 the area was 11,875 acres, and the return was 232,856 bushels, the former being 340 acres more and the latter 51,743 bushels more than in the previous year. Peas and beans are generally grown in all the counties except Millewa, Weeah and Tatchera. Those from which the principal crops were obtained last season were Buln Buln with 43,032 bushels, Grant 33,199 bushels, Mornington 26,227 bushels, Bourke 25,233 bushels, Tanjil 19,873 bushels, Polwarth 11,239 bushels, and Tambo with 9,998 bushels. The production of peas and beans in the seven counties mentioned was equal to 72 per cent. of the total for the whole State.

Mangel-wurzel.

In 1912-13 there were 1,121 acres under mangel-wurzel as against 797 in the previous season, 1,254 in 1910-11, 1,119 in 1909-10, 1,370 in 1908-9, 1,184 in 1907-8, and 1,360 in 1906-7. The production last year was 14,615 tons as compared with an average of 14,136 tons for the preceding five-year period. Mangolds are grown principally in the counties of Grant, Mornington, Villiers, Grenville, Heytesbury, Tanjil, and Buln Buln.

Beet, carrots, parsnips, and turnips.

The cultivation of beet, carrots, parsnips, and turnips, exclusive of those grown in market gardens, showed a slight decrease in area, but an increase in production in the last, as compared with the previous season. In 1912-13 the land sown was 627 acres as against 658 in the preceding year, 872 in 1910-11, 573 in 1909-10, 702 in 1908-9, 496 in 1907-8, and 713 in 1906-7. The produce for last year was 5,628 tons, which was 660 tons above the average for the previous five-year period.

Onions.

Onions are grown in nearly every county south of the Dividing Range. In Bourke the yield was 6,515 tons from 914 acres; in Greville 5,192 tons from 1,016 acres; in Buln Buln 3,599 tons from 611 acres; in Polwarth 3,275 tons from 617 acres; in Villiers 3,215 tons from 515 acres; in Mornington 3,054 tons from 527 acres; and in Grant 2,669 tons from 530 acres. The total area under onions in 1912-13 was higher than in the previous season, but it was below the average of the five-year period ended 1911-12. The following is a return for the last seventeen years:—

ONION CULTIVATION, 1896-7 TO 1912-13.

Year.	Area.	Produce.	Year.	Area.	Produce.
	Acres.	Tons.		Acres.	Tons.
1896-7 ..	3,735	11,256	1905-6 ..	4,889	25,597
1897-8 ..	3,751	11,217	1906-7 ..	4,705	28,000
1898-9 ..	4,472	17,308	1907-8 ..	4,249	22,649
1899-1900 ..	4,436	19,905	1908-9 ..	5,340	24,384
1900-1 ..	2,815	12,766	1909-10 ..	6,434	31,715
1901-2 ..	4,151	20,859	1910-11 ..	6,161	37,484
1902-3 ..	5,565	27,467	1911-12 ..	3,652	20,911
1903-4 ..	4,176	25,218	1912-13 ..	4,977	28,641
1904-5 ..	2,862	12,969			

Green forage.

The area devoted to green forage has shown a considerable expansion in recent periods, especiallly during the past six years, when the yearly average—68,502 acres—was 108 per cent. higher than that for the five years ended 1906-7. In 1912-13, 84,460 acres were utilized for green forage as compared with 75,177 acres in the previous season, 71,826 acres in 1910-11, and 56,586 acres in 1909-10.

Grass and clover seed.

The area under grass and clover for seed last season was the highest since 1905-6. The product returned in 1912-13 was 23,206 bushels from 2,429 acres; in the previous season it was 9,503 bushels from 1,188 acres, and in 1910-11 it was 16,262 bushels from 1,295 acres. It is remarkable that such favorable results have not led to the reservation of a greater area for seed purposes.

Hops

The hop-growing industry attained its maximum development in 1883-4, when 1,758 acres yielded 15,717 cwt. In 1912-13 there were only 25 growers whose return from 131 acres was 1,387 cwt., which was the largest return since 1906-7, when 2,787 cwt. were obtained from 323 acres. Delatite, Bogong, Dargo, Tanjil, and Polwarth were the chief counties in which hops were grown last season, but yields were also recorded in Heytesbury and Buln Buln.

Flax.

The growth of flax (Linum Usitatissimum) received considerably more attention during the past season than in the two previous years, there having been a very large increase in the number of growers and the area sown. The industry has received an additional impetus by the Commonwealth Government renewing for another five years the Bounties Act, under which growers receive a bounty of 10 per cent. on the market value of the fibre produced. The recent erection of a scutch mill in the Portarlington district will also tend to a large area of flax being sown in that locality. Practically the whole of last season's produce came from the counties of Buln Buln and Grant.

Particulars of the industry for the last four years are contained in the following statement:—

FLAX: 1909-10 TO 1912-13.

Year.	No. of Growers.	Area under Crop.	Seed Produced.	Fibre Produced.	Straw awaiting Treatment.
		Acres.	Cwt.	Cwt.	Tons.
1909-10	106	1,213	1,515	676	836
1910-11	33	600	2,457	748	235
1911-12	29	443	1,958	1,327	75
1912-13	55	648	4,536	1,189	615

In 1912, imports into Victoria from countries outside Australia included linseed to the value of £3,375, linseed oil worth £77,422, and fibre worth £124,299.

Tobacco.

In addition to the Government tobacco experimental station (see page 661), there are plantations in the counties of Delatite, along the banks of the King River, and in Bogong; last season there were

also small areas cultivated in Benambra, Anglesey, Croajingolong, and Tambo. Particulars relating to the cultivation of tobacco for the last seventeen years are as follows:—

CULTIVATION OF TOBACCO, 1896-7 TO 1912-13.

Year.	Number of Growers.	Area.	Produce.
		Acres.	Cwt. (dry.)
1896-7	233	1,264	7,890
1897-8	77	522	3,419
1898-9	31	78	190
1899-1900	28	155	1,365
1900-1	16	109	311
1901-2	17	103	345
1902-3	24	171	781
1903-4	25	129	848
1904-5	20	106	1,112
1905-6	31	169	1,405
1906-7	30	133	603
1907-8	49	345	2,764
1908-9	60	413	2,647
1909-10	50	321	2,704
1910-11	57	329	1,090
1911-12	58	356	3,686
1912-13	54	138	..

Tobacco production reached its maximum in 1880-1, when 17,333 cwt. of dry leaf was produced. The subsequent sixteen years were marked by great variations in area and produce, and since 1896-7 the industry has fallen to small proportions, the area under tobacco in 1912-13 amounting to only 138 acres, as compared with 1,264 acres seventeen years ago.

Vines, wine, raisins, &c.

The area under vines showed a steady increase from 4,284 acres in 1879-80, to 30,307 acres in 1894-5. In 1900-1 the area was 30,634 acres, but since then there has been a falling off to 25,855 acres in 1906-7, and 24,579 acres in 1912-13. Vineyards are distributed fairly well over the State, but there are certain districts where the principal industries are connected with vine-growing. The Shire of Mildura produced last season 501,605 cwt. of grapes; Rutherglen, 68,835 cwt.; and Yackandandah, 10,558 cwt. In the Goulburn Valley wine-making is a flourishing industry. In the County of Borung, there are many vineyards, particularly in the Stawell Shire, where 18,013 cwt. of grapes was produced in 1912-13.

At Mildura the crop was principally dried for raisins and currants. The results of fifteen years' operations are as follows:—

VINE PRODUCTION, 1899 TO 1913.

Year ended June.	Number of Growers.	Area.	Produce.			
			Grapes Gathered.	Wine Made.	Raisins Made.	Currants Made.
		Acres.	Cwt.	Gallons.	Cwt.	Cwt.
1899 ..	2,453	27,568	468,887	1,882,209	17,979	1,033
1900 ..	2,382	27,550	298,920	933,282	17,847	3,315
1901 ..	2,486	30,634	631,912	2,578,187	29,370	3,715
1902 ..	2,469	28,592	497,269	1,981,475	27,533	2,546
1903 ..	2,347	28,374	444,966	1,547,188	35,534	3,722
1904 ..	2,260	28,513	654,965	2,551,150	53,447	7,490
1905 ..	2,253	28,016	452,433	1,832,386	30,295	5,974
1906 ..	2,009	26,402	498,590	1,726,444	42,975	6,403
1907 ..	1,860	25,855	752,826	2,044,833	98,127	11,730
1908 ..	1,967	26,465	535,804	1,365,600	68,617	10,440
1909 ..	1,637	24,430	561,679	1,437,106	69,536	11,929
1910 ..	1,606	22,768	548,828	991,941	81,044	27,408
1911 ..	1,652	23,412	592,438	1,362,420	79.318	26,394
1912 ..	1,650	24,193	683,250	983,423	102,924	46,789
1913 ..	1,808	24,579	733,579	1,206,111	109,677	48,337

Of the total quantity of grapes gathered in 1913, 168,588 cwt. were used for making wine, 512,514 cwt. for raisins and currants, and 52,477 cwt. for table consumption and export. Of the 109,677 cwt. of raisins made, 73,127 cwt. were sultanas almost entirely from Mildura. That destructive insect affecting the vines, the phylloxera vastatrix, has not during recent years shown itself to any marked extent. Attempts are being made to completely stamp out the pest by the Department of Agriculture through the distribution of disease-resistant stocks.

Raisins are produced in Victoria upon a scale far in excess of local requirements. It is estimated that a year's consumption of raisins is about 20,000 cwt., consequently, nearly 90,000 cwt. of the production in 1913 are available for export. With regard to currants, a year's consumption is about 30,000 cwt., but it was not until 1910 that anything approaching the required quantity was produced locally.

Orchards

The total number of persons in the State growing fruit for sale was 6,285 in 1912-13, as against 5,955 in the previous season, 5,780 in 1910-11, 5,647 in 1909-10, and 5,241 in 1907-8. The area under orchards in these years was 59,119, 55,769, 53,325, 51,578, and 49,212 acres respectively. The orchards are fairly spread over the whole State. The counties having the largest areas last season were as follows:—Evelyn, 12,351 acres; Bourke, 12,147 acres; Mornington, 9,617 acres; Rodney, 4,057 acres; Talbot, 2,860 acres;

Karkarooc (including Mildura), 2,369 acres; Borung, 1,839 acres; Bendigo, 1,818 acres; Moira, 1,805 acres; Grant, 1,559 acres; Buln Buln, 1,179 acres; and Bogong, 1,042 acres.

In the following table will be found a statement of the number of fruit trees and plants bearing and non-bearing, which produced the various kinds of fruit grown during the seasons 1907-8 and 1910-11—the latest years for which this information is available:—

RETURN SHOWING THE NUMBER OF FRUIT TREES, PLANTS, ETC., IN ORCHARDS AND GARDENS WHERE FRUIT WAS GROWN FOR SALE, 1907-8 AND 1910-11.

Fruit.	Number of Trees, Plants, &c.					
	1907-8.			1910-11.		
	Not Bearing.	Bearing.	Total.	Not Bearing.	Bearing.	Total.
Apples	795,188	1,155,966	1,951,154	764,890	1,449,381	2,214,271
Pears	225,916	261,959	487,875	268,330	364,638	632,968
Quinces	18,505	48,309	66,814	22,820	58,116	80,936
Plums	187,353	296,915	484,268	134,129	355,332	489,461
Cherries	100,228	231,084	331,312	73,739	242,891	316,630
Peaches	109,406	295,189	404,595	179,240	292,054	471,294
Apricots	43,312	260,351	303,663	44,641	236,536	281,177
Nectarines	1,807	5,048	6,855	2,951	4,279	7,230
Oranges	27,117	34,024	61,141	45,403	40,190	85,593
Lemons	14,111	46,465	60,576	20,070	47,880	67,950
Loquats	2,170	5,248	7,418	1,621	4,926	6,547
Medlars	63	197	260	93	361	454
Figs	4,846	29,274	34,120	8,965	35,132	44,097
Passion-fruit ..	4,203	7,251	11,454	5,293	9,795	15,088
Guavas	352	949	1,301	323	162	485
Pomegranates ..	152	93	245	87	117	204
Persimmons ..	253	517	770	242	504	746
Total Large Fruits ..	1,534,982	2,678,839	4,213,821	1,572,837	3,142,294	4,715,131
Raspberries ..	..	1,547,847	1,547,847	..	663,315	663,315
Strawberries ..	..	4,157,534	4,157,534	..	4,018,944	4,018,944
Gooseberries ..	..	297,853	297,853	..	177,661	177,661
Mulberries ..	430	1,145	1,575	465	1,220	1,685
Olives	652	3,165	3,817	3,037	3,473	6,510
Currants (Red, White, and Black) ..	10,327	77,906	88,233	13,572	49,282	62,854
Almonds	8,605	19,772	28,377	9,690	21,053	30,743
Walnuts	4,726	3,787	8,513	4,252	4,461	8,713
Filberts	1,197	2,052	3,249	1,214	3,637	4,851
Chestnuts	410	476	886	498	533	1,031
Total Nuts ..	14,938	26,087	41,025	15,654	29,684	45,338

The area under orchards growing fruit for sale increased steadily from 5,800 acres in 1872-3 to 10,048 in 1882-3, 31,370 in 1892-3, 44,502 in 1902-3, 47,205 in 1904-5, 49,086 in 1906-7, 51,578 in

1909-10, 55,769 in 1911-12, and 59,119 in 1912-13, which is the largest area returned up to date. Details of the produce from orchards growing fruit for sale for the last ten years are as follows:—

ORCHARDS GROWING FRUIT FOR SALE, 1903-4 TO 1912-13.

Year ended March.	Number of Fruit-growers.	Area under Gardens and Orchards.	LARGE FRUITS GATHERED.			
			Apples.	Pears.	Quinces.	Plums.
		Acres.	Bushels.	Bushels.	Bushels.	Bushels.
1904 ..	5,254	46,642	805,034	158,186	81,516	289,972
1905 ..	5,341	47,205	1,019,816	188,849	90,735	121,725
1906 ..	5,163	47,312	578,700	219,864	56,898	130,917
1907 ..	5,367	49,086	1,010,381	303,647	77,277	237,468
1908 ..	5,241	49,212	618,424	182,609	47,871	157,366
1909 ..	5,586	50,675	1,241,826	373,145	99,608	167,012
1910 ..	5,647	51,578	1,121,702	253,195	50,559	232,657
1911 ..	5,780	53,325	1,667,271	640,436	86,355	325,677
1912 ..	5,955	55,769	1,330,961	239,431	54,425	151,936
1913 ..	6,285	59,119	2,036,756	669,898	90,119	260,830

	LARGE FRUITS GATHERED—*continued.*						
	Cherries.	Peaches.	Apricots.	Oranges.	Lemons.	Figs.	Others.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1904 ..	124,423	260,589	336,899	27,670	61,429	26,405	8,863
1905 ..	82,504	230,130	186,360	34,088	81,716	23,500	7,335
1906 ..	116,845	132,870	154,791	21,364	63,904	32,467	12,339
1907 ..	120,496	276,077	258,049	23,431	37,662	29,549	16,817
1908 ..	71,798	290,178	239,735	28,620	46,827	20,460	10,753
1909 ..	95,012	282,040	149,262	22,363	38,548	23,687	17,462
1910 ..	100,054	291,766	292,496	34,027	51,130	22,675	10,566
1911 ..	121,756	317,317	160,884	59,723	71,041	31,054	21,200
1912 ..	96,663	260,258	281,460	48,982	65,833	17,891	10,259
1913 ..	152,257	289,731	138,881	44,039	48,170	25,223	19,496

	SMALL FRUITS GATHERED.					NUTS GATHERED.			
	Raspberries.	Strawberries.	Gooseberries.	Currants (Red, Black, & White).	Others.	Almonds.	Walnuts.	Filberts.	Chestnuts.
	cwt.	cwt.	cwt.	cwt.	cwt.	lbs.	lbs.	lbs.	lbs.
1904 ..	22,377	3,122	14,199	2,312	1,327	113,791	13,276	2,223	6,677
1905 ..	12,480	5,456	13,558	1,805	1,320	80,758	28,306	1,756	4,396
1906 ..	6,821	2,643	9,814	2,113	1,320	81,077	23,131	6,144	4,696
1907 ..	13,816	5,487	12,276	2,054	3,307	69,378	15,863	5,339	3,506
1908 ..	12,466	3,645	8,526	3,705	2,145	62,921	20,266	1,928	5,047
1909 ..	8,640	4,874	6,950	1,278	2,747	91,230	23,100	3,323	3,355
1910 ..	6,143	6,472	5,876	1,428	1,738	81,008	25,368	1,760	5,003
1911 ..	9,231	7,788	6,430	1,334	2,607	126,877	24,242	3,209	8,546
1912 ..	6,658	6,103	4,173	1,429	1,333	100,982	26,329	1,473	8,821
1913 ..	5,207	3,839	3,874	876	1,179	90,317	22,127	1,220	8,305

The following return shows the average produce per tree for all trees, and for bearing trees only, for the years 1907-8 and 1910-11—the latest years for which such particulars are available:—

PRODUCE OF FRUIT TREES, 1907-8 AND 1910-11.

Fruit Trees.	AVERAGE PER TREE.			
	1907–8.		1910–11.	
	All Trees.	Bearing Trees.	All Trees.	Bearing Trees.
	Bushels.	Bushels.	Bushels.	Bushels.
Apples	·32	·53	·75	1·15
Pears	·37	·70	1·01	1·76
Quinces	·72	·99	1·07	1·49
Plums	·32	·53	·67	·92
Cherries	·22	·31	·38	·50
Peaches	·72	·98	·67	1·09
Apricots	·79	·92	·57	·68
Nectarines	·73	·98	·66	1·11
Oranges	·47	·84	·70	1·49
Lemons	·77	1·01	1·05	1·48
Loquats	·12	·17	·89	1·19
Medlars	·24	·32	·11	·14
Figs	·60	·70	·70	·88
Passion Vines ..	·38	·60	·64	·98
Guavas	·04	·05	·05	·14
Pomegranates ..	·33	·88	·99	1·73
Persimmons ..	·38	·56	1·01	1·50
Total Large Fruits only ..	·41	·64	·74	1·11
	lbs.	lbs.	lbs.	lbs.
Almonds	2·22	3·18	4·13	6·03
Walnuts	2·38	5·35	2·78	5·43
Filberts	·59	·94	·66	·88
Chestnuts	5·70	10·60	3·44	6·65

This table shows a good increase in the average production of the principal large fruits between 1907-8 and 1910-11, whether all trees or only bearing trees be taken into consideration.

In addition to the fruits shown (p. 704), large quantities of melons, rhubarb, and tomatoes were produced in the orchards, the following being the quantities returned for 1912-13—Melons, 9,123 cwt.;

rhubarb, 29,683 dozen bundles; and tomatoes, 30,357 cwt. There were also 4,090 acres laid down in private fruit gardens, the value of the produce from which was estimated at about £8,500.

According to prices received by growers the value of fruit which reaches market was estimated to be £341,891 in 1904-5, £345,844 in 1905-6, £451,672 in 1906-7, £386,807 in 1907-8, £373,600 in 1908-9, £423,500 in 1909-10, £524,380 in 1910-11, £558,604 in 1911-12, and £629,863 in 1912-13. This, of course, does not represent the actual value of all the fruit grown, as large quantities are privately consumed in various ways. No very reliable estimate of the value of such fruit can be prepared, but it may be set down at about £35,000.

Cider making.

The Agricultural Department's action, several years ago, in importing a cider-making plant for the purpose of lending it to those desirous of testing or entering the industry, and also in imparting technical instruction concerning the work, has been much appreciated and has resulted in cider-making being now an established industry. The output of the various firms engaged in making the beverage is each season increasing, the quality is good, and the demand improving. Victorian cider can now be obtained at most of the leading hotels and cafés.

Market gardens.

The area under market gardens for the year 1912-13 was 10,414 acres. In view of the fact that these gardens are generally situated near large centres of population, and that the producers are consequently able to dispose of the bulk of their goods with a minimum of loss from waste, &c., an average return of £25 per acre is regarded as a fair estimate. On this basis, the total value of the produce may be given as £260,350. This does not include crops of one acre and over of potatoes, onions, mangel-wurzel, beet, carrots, parsnips, and turnips grown in market gardens, such crops being tabulated under their respective heads in the returns relating to agriculture.

Dried fruit.

The quantity of dried fruit (weight after drying) was for the first time collected in 1895-6, when 179,460 lbs. were returned, and it increased to 636,294 lbs. in 1900-1, after which date the quantity, principally by reason of a reduction in apricots, declined to 306,603 lbs. in 1902-3. In 1909-10 the maximum production—

811,935 lbs.—was recorded. In 1912-13 the quantity was only 316,429 lbs., which was the lowest return since 1902-3. The details for the last ten seasons are as follows:—

DRIED FRUIT, 1903-4 TO 1912-13.

Year ended June.	Apples.	Prunes.	Peaches.	Apricots.	Figs.	Pears.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1904 ..	25,137	58,293	114,096	184,960	17,599	..	400,085
1905 ..	28,021	33,080	134,019	179,520	41,137	..	415,777
1906 ..	19,290	9,207	27,703	252,746	29,227	..	338,173
1907 ..	42,113	64,648	109,958	143,970	37,716	..	398,405
1908 ..	35,544	25,504	87,383	223,091	13,112	8,077	392,711
1909 ..	69,120	56,183	84,514	170,620	26,796	30,322	437,555
1910 ..	46,767	76,015	109,661	539,910	22,160	17,422	811,935
1911 ..	26,391	80,123	84,211	334,111	9,554	31,819	566,209
1912 ..	21,929	72,400	143,112	492,041	31,027	16,502	777,011
1913 ..	48,853	84,053	56,151	61,465	27,274	38,633	316,429

The bulk of the above dried fruit comes from Mildura, where in 1912-13 there were made also 11,873,232 lbs. of raisins, which quantity represented an increase of 661,808 lbs. on the produce of the previous season.

Minor crops.

The following is a return of the minor crops for the last two seasons. The items do not in all cases represent the whole of the respective crops grown, but only such as were taken cognisance of by the collectors:—

MINOR CROPS, 1911-12 AND 1912-13.

Crop.	1911-12.		1912-13.	
	Area.	Produce.	Area.	Produce.
	Acres.		Acres.	
Calabash	5	...	...	...
Chicory	399	333 tons (dry)	506	500 tons (dry)
Flowers	109	...	181	...
Gherkins	26	3 tons	28	121 tons
Herbs	4	...	22	...
Millet—Broom ...	258	958 cwt. fibre 815 cwt. seed	474	2,334 cwt. fibre 1,681 cwt. seed
,, Japanese ...	28	694 cwt. fibre, 332 cwt. seed	...	...
Nursery	647	...	1,041	...
Opium poppies ...	1	7 lbs.	2	17 lbs.
Pumpkins	2,328	20,343 tons	2,632	24,392 tons
Seeds—Agricultural and garden	6	...	67	...
Sugar Beet	752	3,974 tons	934	6,207 tons
Sunflowers	178	7,414 bushels	55	828 bushels
Total	4,741	...	5,942	...

Land in fallow.

While the fallowing of land in Victoria commenced in 1858, and increased in popularity in subsequent periods, it was only within the past nine years that this method of cultivation became fairly general throughout the State. The area fallowed in 1912-13 was 1,627,233 acres, as compared with 853,829 acres in 1904-5, and 399,535 acres in 1897-8. The acreage so treated in each of the last sixteen years was as follows :—

LAND IN FALLOW.

Year ended March.	Acres.	Year ended March.	Acres.
1898	399,535	1906	1,049,915
1899	517,242	1907	990,967
1900	509,244	1908	894,300
1901	602,870	1909	1,034,422
1902	681,778	1910	1,175,750
1903	492,305	1911	1,434,177
1904	632,521	1912	1,469,608
1905	853,829	1913	1,627,233

Nearly all of the fallowed area is devoted to wheat production. Of the 1,627,233 acres in fallow last season 575,191 acres were in the Northern District, 574,391 were in the Wimmera and 306,423 were in the Mallee. The area for these three districts represented 89 per cent. of the total for the State.

Manure used.

The yearly increase in the proportion of farmers using manure indicates the popularity and the value of this method of treating the soil. Last year the number of farmers who used manure was 29,524 as compared with 21,586 in 1905, and 7,318 in 1898. The following table shows the number of farmers using manure, and the quantity of manure used in each of the past twelve years :—

MANURE USED FOR FERTILIZATION, 1901 TO 1912.

Year.	Farmers using.	Area used on.	Manure used—	
			Natural.	Artificial.
		Acres.	Tons.	Tons.
1901	11,439	556,777	153,611	23,535
1902	18,537	1,099,686	206,676	36,630
1903	19,921	1,205,443	207,817	41,639
1904	20,167	1,521,946	190,903	45,940
1905	21,586	1,791,537	210,507	54,674
1906	23,072	1,985,148	205,906	60,871
1907	23,733	2,018,079	232,394	62,337
1908	24,437	2,053,987	235,492	64,715
1909	26,690	2,407,331	197,446	77,579
1910	27,845	2,714,854	203,884	86,316
1911	26,159	2,676,408	205,739	82,581
1912	29,524	3,029,418	222,253	94,010

The area on which manure was used represented only 7 per cent. of that under crop in 1898, but since then the proportion manured has rapidly increased. In 1901, it was 19 per cent.; in 1903, 36 per cent.; in 1904, 46 per cent.; in 1905, 56 per cent.; in 1909, 66 per cent.; and in 1911 and 1912 it was 74 per cent. During 1912 the quantity of manure imported into Victoria from oversea countries was 65,875 tons, and its value £181,123. Eighty-eight per cent. of the quantity, representing 84 per cent, of the value, consisted of guano and rock phosphates imported from Ocean Island.

Characteristics of Victorian soils.

The soils of Victoria vary widely in their physical and chemical conditions. Colour alone is not always an index to productivity, yet to the average mind a darkish colour in soils is generally accepted as indicating a higher potential fertility than exists in lighter coloured soils. There is some logic in this reasoning on account of darkish coloured soils containing generally more organic matter, and, other things being equal, having thus a better absorptive and retentive power for moisture. Fertility, however, is the harmonious operation of a number of factors, some of which are difficult to control. The absorption, retention, and movement of the soil moisture are entirely dependent on the composition, size, and nature of the soil particles, and in this particular, many farmers do not sufficiently appreciate the far-reaching effects of cultivation as the most economical manner in which the latent wealth of the soil may be made available to the needs of crops. Porosity, or natural drainage, controls the temperature of the soil, especially during the period when growth is most abundant, viz., the Spring, hence it is that many soils whose drainage is imperfect, remain cold at that season and the crops grown upon them are restricted in yield. Capillarity, or the power of the soil to transfer moisture from the subsoil to the upper cultivated portion, wherein the roots of crops develop, is exemplified in the case of the two extreme types of sand and clay. In the former case, the surface dries rapidly during summer, although there may be an abundant supply of moisture a few feet down; in the latter case, owing to the facility with which moisture rises from the subsoil to the surface and is lost by evaporation, the soil becomes hard and dry. It is usually regarded that the true measure of fertility is the amount of the mineral elements of plant food present in the soil; but although without food no plant can thrive, yet without an adequate supply of moisture no seed can even germinate, much less produce a mature plant. Hence it is that the chemical condition of a soil is subordinate in importance to its physical composition.

During the past eighteen years some thousands of chemical analyses of Victorian soils have been made by the Chemical Branch of the Department of Agriculture, and the tabulation of the figures has given a general knowledge of the characteristics of soils in every district of the State.

To divide the State into three broad divisions of coastal plain, northern plain, and hill country, is sufficient classification for the general statement that the soils of each locality are somewhat below the standard for phosphoric acid, hence the universal suitability of manures containing that ingredient. In the extensive areas stretching from the coast to the hills throughout Gippsland and the Western District, field experiments have indicated the necessity for a supplementary application of manures containing nitrogen. The greater rainfall of these southern districts permits a more luxuriant growth of vegetation, and as the function of nitrogen is to build up the framework of the plant, it is logical enough that the soils should require feeding in that direction. As regards potash, there is evidence that the majority of Victorian soils, particularly those of the clay type, are well furnished, and at all events for some time, except it may be for special crops, there would appear to be little necessity for manures supplying this element. It must not be forgotten, however, that plant foods produce their best results when in correct proportions to one another, and on sandy soils, when root crops and legumes are grown, potash fertilization may be found necessary.

The percentage of lime present forms a distinct feature in soils of the northern plain, but in the south, with the exception of certain places where the geological formation is of limestone, this most essential element is lacking. It is not too much to say that many thousands of acres in Southern Victoria stand in more need of drainage and liming than of manures. As a corrector of soil acidity, and as a base, wherewith other plant foods may combine and be held in such a manner as to become gradually available for the needs of plants, lime will be found of great service. For the breaking down of adhesive clay soils, so as to render the passage of implements easier, lime well repays the application of from 5 to 10 cwt. per acre once every two or three years.

Useful as the work of soil analysis has been, its value will be made more manifest when the agriculturist has standards of fertility with which to meet the requirements of different soil types under varying climatic conditions.

A better appreciation on the part of the farmer of the powerful influence that soil treatment exerts on the production of crops, and a clearer conception of the rational principles of fertilization will gradually lead to a higher standard of farming, and an all round increase in the average yields of all crops grown within the State.

In March, 1905, and in each year since, the number of engines, horse-works, machines, and other implements on agricultural, dairying, and pastoral holdings has been ascertained. The particulars for the last two years are as follows:— Farm implements.

MACHINERY AND IMPLEMENTS ON FARMS AND PASTORAL HOLDINGS IN EACH DISTRICT, 1912 AND 1913.

District.	Number of —													
	Engines.		Horse-works.	Harvesters.	Threshing Machines.	Winnowing Machines.	Reapers and Binders.	Strippers.	Ploughs.	Harrows.	Cultivators.	Grain Drills.	Chaff-cutters.	Cream Separators.
	Steam.	Oil.												
1912.														
Central ..	506	689	1,937	326	85	266	3,905	54	17,734	12,349	6,181	2,680	5,847	5,920
North-Central	305	192	972	223	40	284	2,049	45	5,540	3,779	1,384	1,261	2,080	3,098
Western ..	276	989	1,650	1,218	72	239	3,174	105	10,475	7,181	2,163	2,406	3,242	4,071
Wimmera ..	122	1084	2,549	3,203	60	1,745	3,328	2,950	8,816	5,986	4,221	4,055	3,877	3,044
Mallee ..	147	379	1,093	1,320	33	1,416	1,387	3,084	4,805	2,562	2,570	2,259	1,564	1,503
Northern ..	694	390	1,727	5,223	76	2,395	5,296	2,049	13,957	8,332	6,517	5,243	2,726	5,878
North-Eastern	372	177	822	383	39	380	1,657	322	5,524	3,449	1,227	951	1,605	2,381
Gippsland ..	451	371	626	126	70	145	1,177	12	8,516	6,070	2,489	1,010	2,231	4,996
Total ..	2,873	4271	11,376	12,027	475	6,870	21,973	8,621	75,367	50,208	26,752	19,865	23,172	30,891
1913.														
Central ..	476	929	1,806	361	83	287	4,005	47	18,173	12,373	6,465	2,867	6,058	6,146
North-Central	292	271	923	260	33	280	2,027	52	5,666	3,933	1,463	1,278	2,028	3,171
Western ..	270	1207	1,635	1,355	84	247	3,485	108	11,063	7,982	2,444	2,576	3,470	4,792
Wimmera ..	128	1215	2,467	3,366	68	1,793	3,585	2,902	9,152	6,198	4,271	4,237	4,035	3,336
Mallee ..	155	431	1,020	1,431	31	1,460	1,541	3,263	5,090	2,694	2,803	2,584	1,522	1,468
Northern ..	645	550	1,685	5,270	113	2,282	5,445	1,852	14,239	9,103	6,990	5,368	2,791	6,065
North-Eastern	333	172	846	393	32	342	1,730	305	5,587	3,560	1,385	1,037	1,620	2,462
Gippsland ..	365	499	612	139	71	137	1,270	27	8,877	6,353	2,453	1,015	2,230	5,121
Total ..	2,664	5274	10,994	12,575	515	6,828	23,088	8,556	77,847	52,196	28,274	20,962	23,754	32,561

NOTE.—The returns collected in March, 1913, showed that there were also in use 1,406 milking machine plants, 3,971 shearing machines, 3,811 wool presses, and 1,630 grain graders.

Compared with 1912, there are noticeable decreases in the number of steam-engines and horse-works, but they are apparently being replaced by oil engines, which show a general increase throughout the State. Each district has contributed towards substantial increases in the number of ploughs, harrows, harvesters, and grain drills, and there has been an increase in the number of reapers and binders in each district except the North-Central, of cultivators in each district except Gippsland, of chaff-cutters in each district except the North-Central, the Mallee, and Gippsland, and of cream separators in each district except the Mallee.

Dairying.

The following are particulars respecting dairying in Victoria for each of the last ten years :—

DAIRYING, 1903 TO 1912.

Year.	Number of Cow-keepers.	Number of Dairy Cows at end of Year.	Butter Made.	Cheese Made.	Number of Cream Separators in use.
			lbs.	lbs.	
1903 ..	41,824	515,179	46,685,727	5,681,515	8,986
1904 ..	42,931	632,493	61,002,841	4,747,851	13,408
1905 ..	46,757	649,100	57,606,821	4,297,350	15,710
1906 ..	47,741	701,309	68,088,168	4,877,593	19,446
1907 ..	49,406	709,279	63,746,354	4,397,909	20,599
1908 ..	49,158	609,166	48,461,398	4,328,644	22,395
1909 ..	50,870	625,063	55,166,555	5,025,834	24,358
1910 ..	52,610	668,777	70,603,787	4,530,893	27,307
1911 ..	53,319	699,555	86,500,474	4,549,843	30,891
1912 ..	54,447	655,939	67,655,834	4,176,778	32,561

The dry autumn of 1912 is responsible for the decline in dairy production that year, which represents a decrease of 22 per cent. in the quantity of butter and 8 per cent. in that of cheese made in 1911.

Butter production per cow.

It is generally regarded that the milk required to make 1 lb. of butter will make about 2 lbs. of cheese, and on this basis the figures in the table show that, after deducting supplies required for milk and cream consumed in their natural state and for milk concentrated, condensed, or preserved, the average production from each dairy cow was equal to 106 lbs. of butter in 1912, as against an average of 127 lbs. in 1911, 109 lbs. in 1910, 92 lbs. in 1909, 83 lbs. in 1908, 93 lbs. in 1907, 100 lbs. in 1906 and 1904, 92 lbs. in 1905, and 97 lbs. in 1903.

The numbers of horses, cattle, sheep, and pigs, in each of the last six census years, together with the numbers per head of the population at each period, are shown in the following table. The progress of the industries dependent on the breeding of stock is thus indicated:— Live stock.

LIVE STOCK PER HEAD OF POPULATION: RETURN FOR SIX CENSUS YEARS.

Stock.	1861. Population, 540,322.		1871. Population, 731,528.		1881. Population, 862,346	
	Number.	Per Head of Population.	Number.	Per Head of Population.	Number.	Per Head of Population.
Horses (including foals) ..	76,536	·14	209,025	·29	275,516	·32
Cattle—						
Milch Cows	197,332	·37	212,193	·29	329,198	·38
Other	525,000	·97	564,534	·77	957,069	1·11
Sheep	5,780,896	10·70	10,477,976	14·32	10,360,285	12·01
Pigs	61,259	·11	180,109	·25	241,936	·28

Stock.	1891. Population, 1,140,405.		1901. Population, 1,201,341.		1911. Population. 1,315,551	
	Number.	Per Head of Population.	Number.	Per Head of Population.	Number.	Per Head of Population.
Horses (including foals) ..	436,469	·38	392,237	·33	472,080	·36
Cattle—						
Milch Cows	395,192	·35	521,612	·43	668,777	·51
Other	1,387,689	1·22	1,080,772	·90	878,792	·67
Sheep	12,692,843	11·13	10,841,790	9·03	12,882,665	9·79
Pigs	282,457	·25	350,370	·29	333,231	·25

The animals are apportioned in this table to the number of inhabitants of Victoria, and in the next table to the number of square miles in the State.

Live Stock per Square Mile: Return for Six Census Years.

Year.	Average per Square Mile (Area of Victoria, 87,884 Square Miles).				
	Horses.	Cattle.		Sheep.	Pigs.
		Milch Cows.	Other.		
1861	·87	2·25	5·97	65·78	·70
1871	2·38	2·41	6·42	119·22	2·05
1881	3·14	3·75	10·89	117·88	2·75
1891	4·97	4·50	15·79	144·43	3·21
1901	4·46	5·94	12·30	123·36	4·00
1911	5·37	7·61	10·00	146·59	3·79

The increase in each class was constant up to 1891, except for a slight fall in the number of sheep between 1871 and 1881. Between the censuses of 1891 and 1901, however, there was a reduction in the numbers of horses, cattle generally, and sheep; and between 1901 and 1911 there was a decrease in the number of cattle other than dairy cows, as well as in the number of pigs. The number of milch cows increased considerably in the last decade, indicating the growth of the dairying industry, and explaining in part the largely augmented output of butter.

The following return shows the live stock in Victoria in each of the last five years. Tables showing the stock, classified in conjunction with holdings, in March, 1910, will be found on page 671, and the sheep, further classified in different sized flocks, in March, 1910, are enumerated on page 721:—

Live Stock in Victoria, 1909 to 1913.

Live Stock.	1909.	1910.	1911.	1912.	1913.
Horses (including foals) ...	424,903	442,829	472,080	507,813	530,494
Cattle—					
Dairy Cows ...	609,166	625,063	668,777	699,555	655,939
Other (including calves) ...	964,996	924,577	878,792	947,572	852,150
Sheep	12,545,742	12,937,983	12,882,665	13,857,804	11,892,224
Pigs	179,358	217,921	333,281	348,069	240,072

It appears from these figures that all classes of live stock, except horses, were considerably less in number in March, 1913, than in the preceding year. Horses, which include 62,648 foals reared, show an increase of 22,681, dairy cows a decrease of 43,616, other cattle a decrease of 95,422, sheep a decrease of 1,965,580, and pigs a decrease of 107,997.

Prices stock.

In the following table will be found a statement of the average and the range of prices ruling in Melbourne during the years 1911 and 1912 for live stock. The information has been extracted from the Melbourne *Stock and Station Journal*:—

PRICES IN MELBOURNE OF LIVE STOCK, 1911 AND 1912.

Stock.	Prices in 1911.									Prices in 1912.								
	Average.			Range.						Average.			Range.					
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.		£	s.	d.	
Horses.																		
Extra heavy draught	51	17	6	49	10	0	to	54	0	0	50	17	6	49	0	0	to	52	0	0
Medium draught ..	41	7	6	39	10	0	to	44	0	0	41	17	6	39	0	0	to	43	0	0
Delivery Cart ..	32	7	6	30	10	0	to	34	0	0	30	12	6	25	0	0	to	33	0	0
Indian Remounts ..	23	10	0	22	0	0	to	26	0	0	22	17	6	21	10	0	to	26	0	0
Saddle and Harness	12	12	6	12	0	0	to	14	0	0	12	15	0	9	10	0	to	14	5	0
Ponies	23	17	6	23	0	0	to	25	0	0	22	5	0	20	10	0	to	24	0	0
Fat Cattle.																		
Bullocks—																		
Extra Prime ..	11	7	0	10	6	0	to	12	11	0	14	13	0	10	11	0	to	23	0	0
Prime	9	17	0	9	0	0	to	10	12	0	12	10	0	8	17	0	to	18	10	0
Good	8	11	0	7	15	0	to	9	7	0	10	12	0	7	15	0	to	15	5	0
Good Light and Handy Weights ..	7	10	0	6	15	0	to	8	5	0	9	2	0	6	10	0	to	13	5	0
Second	6	9	0	5	7	0	to	7	12	0	7	6	0	4	16	0	to	10	0	0
Cows—																		
Best	7	3	0	5	16	0	to	8	17	0	8	14	0	6	5	0	to	12	10	0
Others	5	9	0	3	18	0	to	6	17	0	6	7	0	4	10	0	to	8	10	0
Young Cattle.																		
Prime Steers and Heifers ..	4	10	0	3	17	0	to	5	2	0	5	8	0	4	5	0	to	7	5	0
Calves, prime ..	2	13	0	2	5	0	to	3	7	0	3	0	0	2	7	0	to	4	2	0
„ good ..	1	19	0	1	10	0	to	2	10	0	2	3	0	1	10	0	to	3	0	0
Dairy Cattle.																		
Best Milkers ..	9	10	0	8	7	0	to	10	19	0	9	13	0	8	11	0	to	10	13	0
Good	7	3	0	6	5	0	to	8	8	0	8	2	0	6	0	0	to	9	5	0
Inferior	3	19	0	3	0	0	to	5	0	0	5	8	0	4	0	0	to	7	0	0
Springers, best ..	7	1	0	5	15	0	to	8	5	0	7	6	0	5	10	0	to	9	0	0
Heifers, best Springers	5	2	0	4	0	0	to	6	12	0	6	4	0	5	0	0	to	7	10	0
Dry Cows	3	12	0	3	0	0	to	4	5	0	4	6	0	3	10	0	to	5	15	0
Stores	2	14	0	2	7	0	to	3	6	0	2	19	0	2	0	0	to	4	0	0
Fat Sheep.																		
Wethers (cross)—																		
Extra Prime ..	0	18	2	0	13	4	to	1	3	9	1	3	6	0	15	8	to	1	15	0
Prime ..	0	16	4	0	12	0	to	1	0	3	1	0	4	0	14	0	to	1	8	6
Good	0	14	6	0	10	0	to	0	18	1	0	17	4	0	12	6	to	1	4	0
Ewes (cross)—																		
Extra Prime ..	0	15	7	0	11	3	to	0	19	9	0	19	11	0	12	10	to	1	11	3
Prime	0	13	8	0	10	0	to	0	17	7	0	16	10	0	11	0	to	1	5	0
Good	0	11	9	0	7	9	to	0	15	10	0	13	9	0	9	3	to	0	19	6

PRICES IN MELBOURNE OF LIVE STOCK, 1911 AND 1912—*continued.*

Stock.	Prices in 1911.			Prices in 1912.		
	Average.	Range.		Average.	Range.	
Fat Sheep—continued.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wethers (merino)—						
Prime	0 14 7	0 10 1	to 0 19 0	0 18 3	0 13 0	to 1 6 7
Good	0 12 7	0 9 4	to 0 16 9	0 15 1	0 11 4	to 1 1 0
Ewes (merino) best ..	0 9 10	0 6 7	to 0 15 4	0 12 6	0 7 2	to 1 0 0
Fat Lambs.						
Extra Prime ..	0 18 8	0 11 6	to 0 16 0	0 16 6	0 11 7	to 1 2 1
Prime	0 11 10	0 9 10	to 0 13 10	0 13 10	0 10 4	to 0 17 6
Good	0 10 4	0 8 6	to 0 12 1	0 11 10	0 8 6	to 0 15 3
Second	0 8 10	0 7 1	to 0 10 7	0 9 1	0 6 4	to 0 12 0
Pigs.						
Back Fatters—						
Extra Heavy Prime ..	3 7 0	2 2 0	to 4 11 0	4 14 0	2 14 0	to 7 11 0
Extra Prime and Weighty ..	2 4 0	1 12 0	to 3 7 0	3 4 0	2 0 0	to 7 0 0
Baconers—						
Extra Prime ..	2 5 0	1 16 0	to 2 16 0	3 8 0	2 2 0	to 5 0 0
Prime	2 0 0	1 10 0	to 2 10 0	3 0 0	1 16 0	to 4 5 0
Porkers	1 7 0	1 0 0	to 1 13 0	1 12 0	0 17 0	to 2 7 0
Stores	0 18 0	0 12 0	to 1 3 0	1 0 0	0 10 0	to 1 18 0
Slips and Suckers ..	0 8 0	0 5 0	to 0 12 0	0 9 0	0 4 0	to 0 19 0

Compared with 1911, the average prices of cattle, sheep, and pigs in 1912 point to improved values; but those of horses generally, show a reduction. The range of prices indicates fluctuations in value during each year as well as unevenness in the quality of all classes of stock.

Stock slaughtered.

The returns of stock slaughtered in the last ten years have been partly furnished by the municipal authorities, and partly collected by the police. The numbers include those slaughtered on farms and stations, as well as in municipal abattoirs. Previously to 1903, the returns were furnished solely by the municipal authorities, an estimate being made of the stock slaughtered privately. The following is a

statement of the stock slaughtered during each of the last ten years :—

STOCK SLAUGHTERED: 1903 TO 1912.

Year.	Number Slaughtered.		
	Sheep and Lambs.	Cattle.	Pigs.
1903	2,652,569	235,284	164,745
1904	2,305,729	243,937	191,311
1905	2,576,316	249,454	248,568
1906	2,826,144	261,034	274,391
1907	3,226,141	289,709	257,695
1908	3,309,865	279,710	225,162
1909	3,708,512	287,548	210,613
1910	4,245,881	319,665	257,287
1911	4,348,363	347,926	345,547
1912	4,153,269	368,512	331,364

The purposes for which the slaughtered animals were used were as follows :—

PURPOSES FOR WHICH STOCK WERE SLAUGHTERED: 1903 TO 1912.

Year.	For Butcher and Private Use.			For Freezing.			For Preserving and Salting.			For Boiling Down.		
	Sheep.	Cattle.	Pigs.	Sheep.	Cattle.	Pigs.	Sheep.	Cattle.	Pigs.	Sheep.	Cattle.	Pigs.
1903	2,337,958	231,682	52,681	294,906	1,630	4,200	11,400	1,473	107,754	8,305	499	110
1904	1,843,896	242,276	67,302	459,963	720	3,200	1,095	699	120,758	775	242	51
1905	1,922,402	231,519	92,347	649,107	16,663	1,959	3,229	981	154,190	1,578	291	72
1906	2,170,581	251,004	96,618	651,914	8,009	2,580	2,522	1,476	175,120	1,127	545	78
1907	2,255,308	282,403	81,116	866,498	2,805	1,585	11,760	3,141	174,970	92,575	1,360	24
1908	2,480,072	260,529	71,309	773,396	15,789	2,296	10,775	2,015	151,478	45,622	1,377	79
1909	2,718,344	276,759	67,117	941,309	7,399	225	10,962	2,235	143,206	37,897	1,155	65
1910	2,592,514	302,282	91,850	1,573,516	13,009	1,557	41,420	3,624	163,844	38,431	750	36
1911	2,678,517	321,251	134,546	1,578,132	17,354	1,609	69,486	7,640	209,177	22,228	1,681	215
1912	2,610,665	344,706	148,394	1,409,243	10,793	3,120	104472	10,123	179,717	28,889	2,884	133

The most noticeable figures in these tables are those relating to sheep—a large proportion of which were lambs—slaughtered for freezing. The numbers in 1910, 1911 and 1912 were considerably greater than in any previous year, and indicate the extent of the growth of the frozen meat trade in Victoria. In 1912 the oversea exports included 23,380,703 lbs. of lamb and 27,024,708 lbs. of mutton, valued at £415,946 and £346,398 respectively, all of which, excepting about 1½ per cent., was sent to the United Kingdom.

Wool production.

In the last eight years the wool production of the State has been arrived at by a method which gives a much more accurate estimate of the season's production than formerly. The information relating to the clip has been obtained direct from the

growers, and an allowance has been made for the wool on Victorian skins, both stripped and exported. Previously, the wool production was estimated from the Customs returns for the calendar year, but it is considered that under the present method the production of each particular season can be better distinguished.

VICTORIAN WOOL CLIP AND ESTIMATED TOTAL PRODUCTION FOR THE SEASON, 1912-13.

Districts.		Wool Clip, 1912–13.		
		Sheep.	Lambs.	Total.
		lbs.	lbs	lbs.
Central		4,989,585	380,757	5,370,342
North-Central		4,687,509	276,835	4,964,344
Western		25,240,338	1,883,398	27,123,736
Wimmera		11,609,794	480,758	12,090,552
Mallee		3,325,793	137,025	3,462,818
Northern		7,984,719	387,487	8,372,206
North-Eastern		3,375,628	187,722	3,563,350
Gippsland		4,452,824	436,798	4,889,622
Total Clip*	1912–13	65,666,190	4,170,780	69,836,970
	1911–12	81,902,229	6,504,990	88,407,219
	1910–11	73,959,226	6,115,044	80,074,270
	1909–10	71,006,003	5,673,606	76,679,609
	1908–9	65,289,108	3,641,093	68,930,201
	1907–8	72,542,779	6,577,194	79,119,973
	1906–7	67,943,784	6,739,416	74,683,200
	1905–6	58,919,314	5,258,557	64,177,871

—	1909-10.	1910-11.	1911-12.	1912-13.
	lbs.	lbs.	lbs.	lbs.
Wool clip	76,679,609	80,074,270	88,407,219	69,836,970
Wool stripped from Victorian skins (estimated)	6,551,844	7,450,158	7,520,490	18,925,642
Wool on Victorian skins exported (estimated) ...	12,101,376	14,279,216	14,535,332	
Total production ...	95,332,829	101,803,644	110,463,041	88,762,612
Total value ...	£4,044,755	£4,318,100	£4,142,747	£3,751,083

* The average weight of the fleece in 1912-13 was—sheep, 6·31 lbs.; lambs, 2·20 lbs. ; sheep and lambs combined, 5·68 lbs.

The wool produced last season, as the result of a lower average clip and a decreased number of sheep, was 19½ per cent. less in quantity, and 9½ per cent. less in value than in the previous season.

The production of wool in Victoria, the quantity and value of that used locally for manufacturing purposes and the balance available for export in each of the last six years were as follows:—

WOOL PRODUCTION: HOME CONSUMPTION AND EXPORTABLE BALANCE.

Year.	Production.		Used in Manufactures.		Available for Export.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1907	93,082,341	3,878,431	5,600,873	199,403	87,481,468	3,679,028
1908	87,536,450	3,556,168	5,470,740	190,197	82,065,710	3,365,971
1909	95,332,829	4,044,755	5,239,806	180,036	90,093,023	3,864,719
1910	101,803,644	4,318,100	5,309,730	186,648	96,493,914	4,131,452
1911	110,463,041	4,142,747	5,774,870	228,920	104,688,171	3,913,827
1912	88,762,612	3,751,083	5,535,483	247,943	83,227,129	3,503,140

Wool production—Australian States.

The quantity and value of wool produced in the various Australian States in 1911 were as follows:—

	Quantity.	Value.
	lbs.	£
Victoria	.. 110,463,041	.. 4,142,747
New South Wales ..	.. 371,546,000	.. 13,264,000
Queensland	.. 115,216,736	.. 5,580,000
South Australia ..	.. 63,518,000	.. 2,119,000
Western Australia ..	.. 30,466,000	.. 1,117,000
Tasmania	.. 10,019,593	.. 469,100

In the case of South Australia, the figures given relate to the export oversea of South Australian wool, with the addition of an estimate of the quantity and value of wool on skins exported oversea; in that of Western Australia they represent the wool clip plus an estimate of the wool on skins exported oversea.

Prices of Wool.

The following information as to the average prices of wool per lb. prevailing during the past three seasons has been extracted from Messrs. Goldsbrough, Mort, and Co.'s annual review:—

PRICES OF WOOL, 1910-11 TO 1912-13.

Class of Wool.	Average Value per lb. in—		
	1910-11.	1911-12.	1912-13.
GREASY MERINO.			
Extra Super (Western District)...	15d. to 18½d.	15d. to 18½d.	15d. to 19¼d.
Super	13½d. to 14½d.	13½d. to 14½d.	14d. to 14½d.
Good	11½d. to 12½d.	11½d. to 12½d.	12¾d to 13½d.
Average	11d. to 12d.	11d. to 12d.	12d. to 13d.
Wasty and Inferior	6½d. to 8d.	6½d. to 7½d.	8d. to 9d.

PRICES OF WOOL, 1910-11 TO 1912-13—*continued.*

Class of Wool.	Average Value per lb. in—		
	1910–11.	1911–12.	1912–13.
GREASY MERINO—*continued.*			
Extra Super Lambs	24d. to 27d.	17½d. to 20½d.	20d. to 23d.
Super Lambs	16d. to 19d.	14d. to 16d.	16d. to 18½d.
Good Lambs	11d. to 12d.	11d. to 13d.	12d. to 15d.
Average Lambs	8d. to 9d.	8d. to 9d.	9d. to 11d.
Inferior Lambs	4d. to 5d.	3d. to 4d.	4d. to 6d.
GREASY CROSSBRED.			
Extra Super Comebacks ...	14d. to 15½d.	13½d. to 14½d.	14½d. to 16d.
Super Comebacks	13½d. to 14½d.	12d. to 13d.	13½d. to 14½d.
Fine Crossbred	11½d. to 12½d.	10½d. to 11½d.	12d. to 13d.
Medium Crossbred	8d. to 9d.	8d. to 9d.	10d. to 11½d.
Coarse Crossbred and Lincoln ...	6¾d. to 7¾d.	6½d. to 7½d.	8½d. to 9½d.
Super Fine Crossbred Lambs ...	12½d. to 14½d.	11½d. to 13d.	13d. to 15d.
Good Crossbred Lambs ...	10d. to 11½d.	10d. to 11½d.	11½d. to 13d.
Coarse and Lincoln Lambs ...	7½d. to 8½d.	7½d. to 8½d.	9½d. to 10½d.
SCOURED.			
Extra Super Fleece	22d. to 23¼d.	22d. to 24¾d.	24d. to 26½d.
Super Fleece	20d. to 21d.	20d. to.21d.	22d. to 23½d.
Good Fleece	19d. to 20d.	18d. to 19d.	20d. to 21½d.
Average Fleece	17½d. to 18½d.	16d. to 17½d.	18d. to 19d.
RECORD PRICES FOR THE SEASON.			
Greasy Merino Fleece ...	18¼d.	18½d.	19¼d.
" Comeback Fleece ...	15½d.	14½d.	16d.
" Merino Lambs ...	27d.	20½d.	23d.
" Comeback Lambs ...	14½d.	13d.	15d.
Scoured Fleece	23¼d.	24¾d.	26½d.

Flocks of sheep.

Returns which were collected in March, 1910, gave full information in regard to the flocks of sheep in Victoria. The numbers of flocks and of sheep at that time in the different districts were as follows :—

NUMBER OF FLOCKS AND OF SHEEP IN DISTRICTS, 1910.

District.	Number of—		Average Number of Sheep in a Flock.	Percentage of—	
	Flocks.	Sheep.		Flocks.	Sheep.
Central ..	2,592	982,754	379	10·69	7·63
North-Central ..	2,043	972,439	476	8·43	7·55
Western ..	5,445	4,327,632	795	22·45	33·58
Wimmera ..	4,038	2,250,811	557	16·65	17·47
Mallee ..	1,118	631,337	565	4·61	4·90
Northern ..	4,659	2,029,911	434	19·21	15·68
North-Eastern ..	1,985	797,999	402	8·19	6·19
Gippsland ..	2,368	901,483	381	9·77	7·00
Total ..	24,248	12,885,366	531	100·00	100·00

NOTE.—For information relating to 1913 see Appendix.

The figures do not include 52,617 sheep which were travelling on roads, or were located in cities and towns. The average number of sheep to a flock in Victoria was 531, and this average was exceeded in three of its divisions—the Western, Wimmera, and Mallee Districts. There were some very large-sized flocks in the Western District, and, as a consequence, it contained 33½ per cent. of the total sheep in the State, though it possessed only 22½ per cent. of the total flocks. In the Central, North-Eastern, and Gippsland districts, which contained 28½ per cent. of the flocks, but only 21 per cent. of the sheep, there was a much better distribution, and also evidence that the raising of lambs and the production of wool were combined more with cultivation than in other districts of the State. From 1906 to 1910 there had been an increase of 8,181 flocks, or of 1,545,244 sheep, each district having contributed to the increase of flocks and, with the exception of the Central and Western Districts, to the increase of sheep. The average number of sheep in a flock had decreased in each district, that of the State as a whole having been reduced during the period from 706 to 531. The decrease in the average size of flocks, combined with the increase in the number of sheep, is evidence of the growing popularity of sheep-farming. Excluding sheep travelling and in cities and towns, the following table contains a classification for the whole State of sheep according to sizes of flocks:—

SHEEP ACCORDING TO SIZES OF FLOCKS, 1910.

Size of Flocks.	Number of—		Percentage of—	
	Flocks.	Sheep.	Flocks.	Sheep.
Under 500	18,589	2,614,051	76·66	20·29
500 to 1,000 ..	3,205	2,267,722	13·22	17·60
1,001 „ 2,000 ..	1,477	2,100,701	6·09	16·30
2,001 „ 3,000 ..	378	923,881	1·56	7·17
3,001 „ 5,000 ..	258	994,634	1·07	7·72
5,001 „ 7,000 ..	107	629,821	·44	4·89
7,001 „ 10,000 ..	93	797,754	·38	6·19
10,001 „ 15,000 ..	69	850,294	·29	6·60
15,001 „ 20,000 ..	35	624,688	·14	4·85
Over 20,000 ..	37	1,081,820	·15	8·39
Total	24,248	12,885,366	100·00	100.00

Flocks of over 15,000, though not very numerous, being only about one in every 337, accounted for over 13 per cent. of all sheep, whilst those in the most general size—under 500 sheep—comprised 77 per cent. of the total flocks, and only 20 per cent. of the sheep. Of the largest flocks, 25 containing 712,609 sheep belonged to the Western District counties, and 4, containing 128,775, to the Central District counties. Flocks of from 15,001 to 20,000 were also chiefly confined to the Western District, where 28 of them, representing

491,367 sheep were located—so that as regards this size the district possessed four-fifths of the flocks and sheep in the State. The Western District had, altogether, over 33½ per cent. of the total sheep in Victoria, but only 18 per cent. of the number in this district was in flocks up to 1,000. In every other district the keeping of sheep was combined with agriculture to a much greater extent, as of the total in each district the proportion per cent. in flocks up to 1,000 was, in the Northern, 53; Mallee, 50; Wimmera, 48; North-Eastern, 47; Gippsland, 44; North-Central, 44; and Central, 43. Between 1906 and 1910, the flocks up to 1,000 had increased by 7,740, or 55 per cent., and the sheep in them by 1,501,078, or 44 per cent.; while in the same period the flocks over 1,000 had increased by 441, or 22 per cent., and the sheep in them by only 44,166, or less than 1 per cent.

Breed of sheep.

The numbers of sheep of different breeds in Victoria in March, 1913, have been estimated as follows:—

SHEEP ACCORDING TO BREED, MARCH, 1913.

Breed of Sheep.	Number.
Merino	4,281,300
Comeback	2,735,300
Crossbred, coarse	1,546,000
,, Shropshire and Southdown	1,427,000
Lincoln	832,300
Shropshire	475,600
Other	594,724
Total	11,892,224

Lamb raising.

The export trade in frozen lamb began in 1892, and in the years that have since elapsed, it has so enormously developed that it is now recognised as one of the principal industries of the State. In 1892, 11,794 centals of beef and mutton, and in 1894, 111,715 centals of mutton, or some 250,000 carcases, were exported, and thus in two years the trade had increased tenfold. For three or four years after the inception of the trade mutton was the chief export, but in 1896 the export of lambs commenced to be seriously viewed by graziers, and the trade in lambs has since grown to such an extent that even the most sanguine prophecies concerning it seem likely to be more than realized. In 1909, 941,309 carcases—760,308 of lamb, and 181,001 of mutton—in 1910, 1,573,516 carcases—1,087,179 of lamb, and 486,337 of mutton—in 1911, 1,578,132 carcases—953,192 of lamb, and 624,940 of mutton—and in 1912, 1,409,243 carcases—842,702 of lamb, and 566,541 of mutton—were frozen for export.

The soil and climate of Victoria are well suited to the economical production of both lamb and mutton, and properly selected breeds of sheep are profitable, not only as meat but also as wool producers.

The climate permits of flocks being kept on open pasture all the year round, and there are certain districts where, in consequence of the exceptionally mild conditions prevailing, the industry can be carried on with absolute success.

The growing of wheat and the raising of lambs are two industries which are mutually dependent: farmers should, therefore, more actively combine these pursuits, as in so doing they will effect subtle transmutations in farming operations. Sheep, moreover, keep fields free from weeds, in addition to causing an enrichment of the ground.

In Victoria the legislative trend is towards the breaking up of large estates, and many small holdings have been established. With the extension of the intense culture methods that are being impressed on farmers, lamb-raising is becoming an extensive industry. The general meat supplies for the increasing populations of Europe fall far short of requirements, and it is expected that the markets of Germany and Austria, now closed to Australian meats, will soon be thrown open, and furnish a wider impetus to our trade.

The demand in Europe and America for mutton and wool is persistently increasing, while the supplies of these commodities are relatively decreasing in consequence of the continuous growth and spread of population, and the increasing inability of stock owners in old countries to augment their flocks, because of the contraction of their grazing lands. Old lands whose territories are limited, and whose populations are vast and increasing, cannot find room to depasture the great flocks and herds necessary to meet their requirements, and so must look for supplies of meat and wool to newer lands where extensive grazing areas are available, and where sheep will flourish. The possibilities, then, for settlers in Victoria who may embark in the industry of raising lambs for export oversea are unbounded; the hours of toil are neither long nor exacting, and the industry is now one of the most profitable and popular of farming occupations. With the continuous breaking up of large estates and the settlement of increasing numbers of small sheep-farmers on the land, mutton will become the primary and wool the incidental consideration, instead of the reverse condition now existing.

If special fodder crops were generally grown and methods of husbandry practised on the same lines as in New Zealand, it should be quite possible for Victoria to soon possess 25,000,000 sheep, whereas at present the number is only 11,892,224. The carrying capacity of a farm is increased by growing special fodder crops, but at the present time, although unlimited markets exist abroad, graziers do not make sufficient special provision for feeding their stock. They, for the most part, rely entirely on the natural pastures. If systematic efforts were made to extensively grow fodder crops, graziers would not only materially augment their own incomes, but would also increase the resources and prosperity of the State.

Where rainfall is certain and irrigation possible lucerne as a mainstay fodder should be grown, for the cultivation of this crop vastly increases the carrying capacity of the farm. When the irrigation schemes of the Northern areas are completed an enormous impetus will be given to lamb production. Lucerne, rape, kale and turnips, which are the best fattening fodders for sheep, will then, no doubt, be grown in great luxuriance.

There is no limit to the demand for meat in Europe, and the only real rival we have in oversea markets is the Argentine Republic, for there the seasons correspond with our own. Victoria is a State peculiarly free from diseases that decimate flocks, and in this respect is in a much more fortunate position than the Argentine, where State assistance towards promoting prosperity and checking ravages of disease is not rendered to the same extent as in Victoria.

The possibilities, then, for farmers engaging in the trade of raising lambs in this State for export are very great, and no apprehension need be felt that the outlet for lambs is likely to become contracted. The significant feature to be kept in mind is that the number of sheep all the world over is not keeping pace with the increase in population. Europe is now finding that it must largely depend on oversea countries for its meat supplies.

Raising lambs, although not an arduous vocation, is a calling in which one must possess some knowledge of farm practice and of the management of flocks, in addition to having an acquaintance with diseases incidental to sheep, before one can hope to meet with success. Settlers who take up this work will, however, experience but little difficulty in gaining knowledge, inasmuch as the State officers are always prepared to proffer advice on any difficulties that may crop up.

Pork.

The breeding of pigs for export, either in the form of pork or bacon, if conducted on systematic lines, should prove a remunerative business. As an adjunct to dairying and general farm operations pig-breeding should be considered an inseparable factor. Pigs are the best agents to profitably use up the waste products of a farm, and separated milk and damaged grain can profitably be converted into pork. Too much stress cannot be put on the necessity of skim-milk being sterilized before being fed to pigs. Experiments, which have been confirmed by bacteriological examination, have clearly demonstrated the probability of the prevalence of tuberculosis in pigs in dairying districts being due to the feeding of pigs on slimes and unsterilized separated milk. Notwithstanding the incessant demand for pig products, farmers regard with some indifference this important branch of agriculture. There are only 240,072 pigs in the State at the present time, and this number could be enormously and advantageously increased, for there is a continuous demand in the old world for products of swine origin. It is estimated that in the principal countries of the world there exist 156,717,000 pigs. During 1912, 3,120 carcases of pork were exported from Victoria.

Beef and Veal.

The rearing of milk herds is an important business in Victoria, for the production of milk is one of the staple industries, but the raising of beeves for export is not as yet a great undertaking in the State, although this industry is capable of being established in districts where water is plentiful and where special fodder crops can be advantageously grown. It is estimated that there are about 454,429,000 cattle in the civilized countries of the world, but the number being raised is not keeping pace with the increase of population, and therefore short supplies of beef in thickly-populated countries must inevitably occur. During 1912, there were exported from Victoria 2,498 carcases of beef, and 3,355 carcases of veal.

Live stock in Australia and New Zealand.

In the following statement are given the total number and the number per square mile of horses, cattle, sheep, and pigs in the various Australian States and New Zealand, according to returns dated March, 1913, in the cases of Victoria and Tasmania, and December, 1912, in the cases of New South Wales, Queensland, South Australia, the Northern Territory, and Western Australia. The returns for New Zealand sheep relate to April, 1912, but other stock was not enumerated at that date, and the figures given relate to April, 1911.

LIVE STOCK IN AUSTRALASIA, 1912.

State, etc.	Horses.	Cattle.		Sheep.	Pigs.
		Milch Cows.	Other.		
	Total Number.				
Victoria	530,494	655,939	852,150	11,892,224	240,072
New South Wales	716,373	853,388	2,187,627	38,936,048	293,653
Queensland ..	674,573	375,660	4,835,231	20,310,036	143,695
South Australia ..	276,539	114,734	268,684	5,481,489	69,832
The Northern Territory	18,382	..	405,552*	75,808	1,500
Western Australia..	147,629	27,310	778,984	4,596,958	47,351
Tasmania ..	44,039	60,160	162,021	1,862,669	49,152
New Zealand ..	404,284	633,733	1,386,438	23,750,153	348,754
	Number per Square Mile.				
Victoria	6·04	7·46	9·70	135·32	2·73
New South Wales	2·31	2·75	7·05	125·45	·95
Queensland ..	1·01	·56	7·21	30·29	·21
South Australia ..	·73	·30	·71	14·42	·18
The Northern Territory	·04	..	·77*	·15	·003
Western Australia..	·15	·03	·80	4·71	·05
Tasmania ..	1·68	2·29	6·18	71·05	1·87
New Zealand ..	3·87	6·07	13·29	227·59	3·34

* Including milch cows.

In 1912, as compared with the preceding year, the number of horses had increased in each State, but had decreased in the Northern Territory; cattle had increased in two States, but not in Victoria, New South Wales, South Australia, Western Australia, and the

Northern Territory; sheep had increased in Tasmania and the Northern Territory, but not in Victoria, New South Wales, South Australia, Queensland, Western Australia, and New Zealand; and pigs had decreased in each of the six States. Live stock, in proportion to area, are evidently most numerous in New Zealand, which possesses horses, cattle, and sheep equal to about 382 sheep to the square mile; Victoria comes next wth 299; then follow New South Wales with 207; Tasmania with 139; Queensland with 87; South Australia with 28; and Western Australia with 11; after which comes the Northern Territory with stock equivalent to 5 sheep to the square mile.

World's supply of sheep.

The following is a statement of the number of sheep in the world at the latest dates for which information is available, according to the *Year-Book*, United States Department of Agriculture:—

NUMBER OF SHEEP IN THE WORLD, 1912.

	No. of Sheep.
United Kingdom	28,952,000
Other European countries	147,577,000
Total Europe	176,529,000
Australia and New Zealand	106,905,000
Asia	110,590,000
Africa	53,647,000
North America...	58,057,000
South America...	112,088,000
Total	617,816,000

Ensilage

The preserving of forage in a green state has been practised in Victoria for many years, but up to the present only a small number of farmers have adopted it. It is surprising that this should be so, as ensilage-fed animals at all times present an appearance of health and vigour. In Victoria, where almost every season the rapid drying up of the grass under the excessive heat of the summer sun causes large areas of pasture land to be parched and grassless, and where green food usually disappears from December till Autumn, an artificial method of preserving fodder should be of the utmost possible benefit, as the advantage of the luxuriance of trefoil, grasses, and self-sown crops in the spring would not then be lost. The juicy state in which the silo preserves ensilage fulfils an important requirement of ruminant animals, viz.:—that their food should be presented in a succulent condition. Even in districts where fresh green fodder is available throughout the greater part of the year, the advantage of being able to secure the crop when it is in its best condition seems so evident, that the silo should soon become an indispensable adjunct on every farm.

The returns for Victoria relating to the years 1904 to 1913 show that in the year 1909-10 there was a substantial increase in the number of farmers who made ensilage, and in the material used, as compared with previous years, but that in the succeeding years there was a considerable decline, the number of farmers who made

ensilage in 1912-13 being 231 less, the number of silos 271 less, and the materials used 9,403 tons less than in the year 1909-10.

ENSILAGE RETURNS, 1903-4 TO 1912-13.

Year Ended March.	Number of Farms on which made.	Number of Silos (Pits and Stacks).	Weight of Materials Used.
			Tons.
1904	290	..	10,931
1905	300	..	12,779
1906	160	218	7,240
1907	210	278	10,581
1908	203	260	11,031
1909	392	494	18,205
1910	518	656	27,280
1911	460	555	25,969
1912	371	450	20,888
1913	287	385	17,877

Bee-keeping.

The returns for 1912-13 show that there were in that year 4,796 bee-keepers, who owned 39,626 frame and 13,097 box hives, producing 3,087,506 lbs. and 190,084 lbs. of honey respectively, and 45,354 lbs. of beeswax. In 1911-12, there were 3,787 bee-keepers who owned 39,078 frame and 14,633 box hives, producing 1,462,220 lbs. and 173,040 lbs. of honey respectively, and 28,405 lbs. of beeswax.

A curious feature of this industry is the regularity with which the good and "off" seasons alternate, the cause being that the particular eucalyptus from which the supplies of honey are chiefly drawn flowers only every other year. In the Wimmera, which is the chief honey-producing district, the production of honey rose from 467,617 lbs. in 1911-12 to 1,704,646 lbs. in 1912-13, and the number of hives had increased only from 16,380 to 17,073 in the same interval. The following are the figures for the State for the last ten years:—

BEE-KEEPING, 1903-4 TO 1912-13.

Season ended May.	Number of Bee-keepers.	Bee Hives.	Honey.	Beeswax.
			lbs.	lbs.
1904	5,609	40,759	833,968	18,979
1905	6,494	49,120	1,906,188	28,653
1906	5,300	41,780	1,209,144	21,844
1907	4,974	48,005	2,965,299	46,780
1908	4,745	43,212	1,138,992	24,521
1909	4,303	40,595	2,373,628	38,674
1910	3,976	42,632	1,611,284	22,369
1911	4,043	52,762	2,308,405	34,695
1912	3,787	53,711	1,635,260	28,405
1913	4,796	52,723	3,277,590	45,354

Poultry.

The numbers of the various kinds of poultry in the State, in March, 1911, were as follows:—

Fowls	...	...	3,855,538
Ducks	...	...	288,413
Geese	...	...	59,851
Turkeys	...	...	190,077

Taking the above figures as a basis, it is estimated that the gross value of poultry and egg production for the year 1912 was £1,659,100.

The following table shows the number of poultry and poultry-owners as ascertained in each of the last four census years:—

POULTRY AND POULTRY-OWNERS: 1881, 1891, 1901, AND 1911.

Census.	Poultry-owners.	Fowls.	Ducks.	Geese.	Turkeys.
1881	97,152	2,332,529	181,698	92,654	153,078
1891	142,797	3,487,989	303,520	89,145	216,440
1901	132,419	3,619,938	257,204	76,853	209,823
1911	144,162	3,855,538	288,413	59,851	190,077

It appears from the above that there was an increase in the number of poultry-owners between 1901 and 1911, and although geese and turkeys showed a slight decrease, there was an increase in fowls and ducks. The United Kingdom in the five years ended December, 1912, imported annually £7,615,054 worth of eggs, of which 43½ per cent. was from Russia, 24 per cent. from Denmark, 7 per cent. from Austria-Hungary, nearly 6 per cent. from Italy, 5 per cent. from France, 3½ per cent. from Germany, 11 per cent. from other foreign countries, and only about ⅛ per cent. from British countries. It also imported in these years an annual average of £888,086 worth of poultry, 99 per cent. of which was from foreign countries.

State expenditure on rabbit destruction.

Active operations for the destruction of rabbits, &c., on Crown lands were first undertaken by the Government in 1880, and from that date to 30th June, 1912, sums amounting to £597,303 had been expended in connexion therewith, including subsidies to Shire Councils for the destruction of wild animals. The following are the amounts spent since 1879:—

EXPENDITURE ON DESTRUCTION OF RABBITS, ETC.

	£		£
1879-80 to 1888-9 ...	142,963	1905-6	16,477
1889-90 to 1898-9 ...	208,638	1906-7	16,513
1899-1900	14,801	1907-8	17,585
1900-1	15,817	1908-9	22,756
1901-2	17,250	1909-10	23,005
1902-3	16,489	1910-11	23,123
1903-4	15,759	1911-12	29,524
1904-5	16,603		

In addition to the expenditure of £597,303 referred to above, a loan of £150,000 for the purchase of wire-netting to be advanced to land-holders was allocated to shires in 1890, and one of £50,000 in 1896, both of which have been repaid. Further sums amounting

to £45,850 in 1908-9, £10,734 in 1909-10, £43,648 in 1910-11, and £21,116 in 1911-12 were advanced from loans for the purchase of wire-netting for supply to municipalities and land-owners. A complete system, administered by an officer called the Chief Inspector under the Vermin Destruction Act, exists for effectually keeping the rabbits under control.

Rabbits, &c., sold, Melbourne Fish Market.

The quantity of rabbits, hares, and wild-fowl sold at the Melbourne Fish Market during each of the past ten years was as shown in the following statement:—

RABBITS, HARES, AND WILD-FOWL SOLD AT THE MELBOURNE FISH MARKET, 1903 TO 1912.

Year.	Rabbits.	Hares.	Wild Fowl.
	pairs.	brace.	brace.
1903 ...	316,462	1,024	13,130
1904 ...	402,944	1,466	49,556
1905 ...	364,066	903	47,348
1906 ...	275,166	535	28,610
1907 ...	298,024	260	58,210
1908 ...	231,216	148	20,634
1909 ...	235,548	163	42,240
1910 ...	245,208	130½	34,180
1911 ...	320,292	222	24,420
1912 ...	480,192	363	29,562

Frozen rabbits, &c., exported.

Large quantities of frozen rabbits and hares have been exported to the United Kingdom and other oversea countries during recent years, the numbers and values for the last ten years being as follows:—

FROZEN RABBITS AND HARES EXPORTED OVERSEA: 1903 TO 1912.

Year.	Quantity.	Value.
	pairs	£
1903	3,447,077	165,580
1904	4,045,036	125,038
1905	5,093,952	219,665
1906	4,622,307	221,064
1907	3,251,231	154,789
1908	1,743,466	84,835
1909	1,675,578	82,182
1910	1,372,087	68,469
1911 ...	1,373,501	69,426
1912	1,111,902	57,233

In 1912 the exports oversea from Victoria also included 3,904,379 lbs. of rabbit and hare skins, valued at £221,614, and sent principally to the United Kingdom.

Fishing industry

The following tables give information regarding the fishing industry. The first shows the various fishing stations round the coast and on the Murray and Goulburn Rivers, the number of men and boats engaged, and the value of the general fishing plant in use. The second shows the approximate quantity and value of Victorian and other fish sold in the Metropolitan market during the years 1911 and 1912; and the third shows the quantity and value

of Victorian fish sold in the Melbourne, Ballarat, and other markets during 1912 :—

FISHING INDUSTRY—MEN AND BOATS EMPLOYED, 1912

Fishing Stations.	Number of Men.	Boats.		Value of Nets and other Plant.
		Number.	Value.	
			£	£
Anderson's Inlet	9	6	130	382
Barwon Heads and Ocean Grove ..	8	5	615	54
Brighton	8	7	126	69
Corner Inlet, Welshpool, and Toora ..	51	56	3,438	806
Dromana	25	16	761	215
Echuca	5	8	16	255
Frankston	8	10	396	94
Geelong	51	23	854	659
Gippsland Lakes	454	254	8,284	3,911
Kerang	8	8	35	190
Lorne	5	2	33	16
Mallacoota	7	5	1,055	81
Mentone	11	9	88	59
Mordialloc	11	8	276	183
Mornington	21	15	680	331
Nathalia	3	3	8	34
Portarlington and St. Leonards ..	51	32	971	527
Portland	36	22	1,515	501
Port Albert	36	21	1,197	549
Port Fairy	30	20	1,558	274
Port Melbourne	39	30	1,308	535
Queenscliff	96	53	5,948	401
Sandringham	12	14	392	154
Sorrento, Portsea, and Rye	12	10	1,075	235
St. Kilda	7	5	76	124
Swan Hill	3	3	13	62
Warrnambool	3	4	115	71
Western Port (Cowes, Hastings, Flinders, San Remo, and Tooradin) ..	108	59	2,281	1,558
Williamstown	20	13	318	142
Total . . .	1,138	721	33,562	12,472

The quantities and values of Victorian and other fish sold in the Melbourne Fish Market during the last two years were as shown hereunder :—

FISH SOLD IN THE MELBOURNE FISH MARKET, 1911 AND 1912.

—	1911.		1912.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Fresh Fish (Victorian) lbs.	9,279,312	57,995	9,289,826	73,544
Crayfish (Victorian) .. doz.	30,931	7,733	35,714	10,714
Imported Fish (fresh or frozen) lbs.	2,375,944	39,599	2,359,270	43,253
Oysters .. .. bags	15,526	26,005	16,934	26,489
Total	..	131,332	..	154,000

In addition to the above, 2,109 cwt. of smoked fish, and 155 baskets of prawns were sold in this market in 1912.

The quantity and value of fish caught in Victorian waters, and sold in the Melbourne and Ballarat markets and elsewhere in 1912 were as follows:—

VICTORIAN FISH SOLD IN 1912.

Markets.	Quantity.		Value.	
	Fish.	Crayfish.	Fish.	Crayfish.
	lbs.	doz.	£	£
Melbourne	9,289,826	35,714	73,544	10,714
Ballarat	547,344	2,277	3,452	595
Other	114,011	1,469	903	441
Total	9,951,181	39,460	77,899	11,750

Fish imported

In connexion with this subject, the quantities and values of the different classes of fish imported are of interest. The available figures for 1909 and 1912 are appended:—

FISH IMPORTED, 1909 AND 1912.

	1909.—Interstate.		1909.—Oversea.		1912.—Oversea.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£
Fish—						
Fresh or Frozen lbs.	1,772,999	22,720	758,545	11,076	1,005,327	18,671
Smoked ,, ,,	127,016	662	99,793	3,322	43,255	1,920
Fresh Oysters cwt.	16,941	8,529	7,935	4,145	7,352	4,596
Potted, &c. ..	..	41	..	4,559	..	6,017
Preserved in tins, &c. .. lbs.	117,177	3,266	4,823,366	116,931	5,854,119	170,352
N.E.I. .. cwt.	214	356	5,815	9,434	5,625	9,717
Total ..	..	35,574	..	149,467	..	211,273

The most important item in this table is fish preserved in tins and other air-tight vessels, of which 4,893,522 lbs., or 83½ per cent. of the imports from oversea countries, came from the United Kingdom, the United States, and Canada in 1912.

Imports by United Kingdom of articles that may be further developed in Victoria.

In Victoria the natural conditions are eminently suitable for agricultural and pastoral pursuits, and there is room for considerable expansion in these avenues of production. There is little need to fear over-production, as the United Kingdom offers an almost unlimited market for the consumption of many articles which could be supplied from this State and would give very profitable employment. The magnitude of the importations by the United Kingdom of certain articles that can be profitably produced here is revealed by the particulars given in the table which follows. The figures, which are taken from the United Kingdom Board of Trade returns, represent the trade in 1912 and the average annual imports for each of the five-year periods 1902 to 1906 and 1907 to 1911.

Average Annual Imports into the United Kingdom, 1902 to 1906, 1907 to 1911, and 1912.

Articles.	Period.	Annual Value of Imports into United Kingdom from—			
		Australia.	Other British Possessions.	Foreign Countries.	All Countries.
		£	£	£	£
Butter	1902–6	1,712,956	2,472,530	17,312,389	21,497,875
	1907–11	3,097,212	1,765,365	18,740,997	23,603,574
	1912	3,225,886	2,153,504	18,974,803	24,354,193
Cheese	1902–6	..	4,978,094	1,673,493	6,651,587
	1907–11	12,448	5,595,337	1,266,113	6,873,898
	1912	4,903	6,230,681	1,178,507	7,414,091
Eggs	1902–6	..	157,774	6,555,769	6,713,543
	1907–11	..	20,600	7,342,655	7,363,255
	1912	..	2,724	8,391,800	8,394,524
Meats	1902–6	1,429,209	6,863,373	30,711,627	39,004,209
	1907–11	3,471,839	6,607,903	32,736,164	42,815,906
	1912	4,317,329	6,689,969	36,130,514	47,137,812
Poultry and Game	1902–6	3,166	29,041	1,060,502	1,092,709
	1907–11	9,553	11,660	994,356	1,015,569
	1912	..	16,669	918,327	934,996
Fruit—Fresh, Dried, and Preserved ..	1902–6	266,617	1,252,458	11,902,119	13,421,194
	1907–11	384,980	1,434,343	12,611,445	14,430,768
	1912	500,341	1,339,238	13,604,752	15,444,331
Sugar	1902–6	..	965,979	16,076,546	17,042,525
	1907–11	2,608	1,604,791	20,786,705	22,394,104
	1912	13,167	1,595,519	23,540,975	25,149,661
Flax and Hemp ..	1902–6	..	1,002,294	6,434,494	7,436,788
	1907–11	..	805,505	6,402,596	7,208,101
	1912	..	802,982	8,202,693	9,005,675
Maize	1902–6	..	702,006	10,784,652	11,486,658
	1907–11	..	676,792	10,947,788	11,624,580
	1912	..	774,181	12,819,035	13,593,216
Wheat	1902–6	2,373,506	9,055,721	20,419,283	31,848,510
	1907–11	4,343,622	12,772,819	23,680,500	40,796,941
	1912	5,334,878	19,913,847	21,196,507	46,445,232
Wheatmeal and Flour	1902–6	230,520	945,335	6,578,130	7,753,985
	1907–11	191,694	1,220,634	4,773,220	6,185,548
	1912	368,648	2,223,124	2,926,732	5,518,504
Wine	1902–6	117,010	19,185	4,213,525	4,349,720
	1907–11	134,364	24,883	3,774,371	3,933,618
	1912	113,282	38,525	4,135,619	4,287,426
Leather	1902–6	401,190	2,515,675	5,473,448	8,390,313
	1907–11	402,231	2,904,885	6,152,809	9,459,925
	1912	435,741	3,336,277	7,953,668	11,725,686
Skins, Furs, and Hides	1902–6	935,238	2,877,271	4,998,422	8,810,991
	1907–11	1,766,625	3,685,330	7,746,724	13,198,679
	1912	2,161,812	4,789,606	8,230,703	15,182,121
Tallow and Stearine	1902–6	667,477	550,351	1,204,424	2,422,252
	1907–11	1,306,817	717,578	1,544,082	3,568,457
	1912	1,374,541	744,118	1,461,445	3,580,104
Wool (Sheep and Lambs) ..	1902–6	10,061,829	8,603,913	3,710,411	22,376,153
	1907–11	14,091,340	12,482,592	5,299,274	31,873,206
	1912	12,589,003	14,019,416	6,626,596	33,235,015

The requirements of the United Kingdom as regards the sixteen articles specified were met by foreign countries to the extent of 71 per cent. during 1902-6, of 67 per cent during 1907-11, and of 65 per cent. in 1912. Only 9 per cent. of such requirements during the period 1902-6, 12 per cent. during the period 1907-11, and 11 per cent. in 1912 was supplied by Australia, where bountiful soils and a salubrious climate, especially in Victoria, give an opportunity of doing much more than at present in the supply of butter, meats, fruits, breadstuffs, &c. That it requires only increased population to enormously swell the output of primary products is apparent if a comparison be made with Great Britain, which is of equal size and less favoured generally by climate.

The figures for 1912 relating to agriculture and live stock in Victoria and Great Britain are for comparative purposes placed side by side in the table which follows:—

AGRICULTURE AND LIVE STOCK IN VICTORIA AND GREAT BRITAIN, 1912.

—		Victoria.	Great Britain.
Area	acres	56,245,760	56,214,327
Wheat produced	bushels	26,223,104	55,838,360
Oats produced	"	8,323,639	109,935,064
Barley produced	"	1,744,527	51,238,728
Peas and Beans produced	"	232,856	11,641,320
Potatoes produced	tons	191,112	3,179,632
Turnips and swedes produced	"	5,628*	20,278,639
Mangolds produced	"	14,615	8,836,718
Hay produced	"	1,572,933	9,018,631
Horses	No.	530,494	1,611,277
Cattle	"	1,508,089	7,026,096
Sheep	"	11,892,224	25,057,732
Pigs	"	240,072	2,655,797

* Includes beet, carrots, and parsnips.

It should be possible in Victoria to have as great a production from agriculture and to maintain as many live stock as in Great Britain.

MINING.

Details of expenditure in connexion with the mining industry are given in the following statements:— State expenditure on Mining.

EXPENDITURE ON MINING: 1907-8 TO 1911-12.

—	1907-8.	1908-9.	1909-10.	1910-11.	1911-12.
	Expenditure from Consolidated Revenue.				
	£	£	£	£	£
Mining Department	26,531	24,910	25,795	25,738	25,980
State Coal Mine	...	...	46,695	152,573	189,049
Coal Mines Regulation—Sinking Fund and Depreciation Fund	...	..	...	15,575	6,046
Victorian coal—Allowance to Railway Department on carriage of	7,541	7,419	11,093	7,098	10,018

EXPENDITURE ON MINING: 1907–8 TO 1911–12—*continued.*

—	1907–8.	1908–9.	1909–10.	1910–11.	1911–12.
	Expenditure from Consolidated Revenue.—*continued.*				
	£	£	£	£	£
Diamond drills for prospecting ...	13,150	11,805	15,978	17,124	16,938
Testing plants	2,093	2,203	3,846	3,793	3,374
Geological and underground surveys of mines	5,701	5,628	6,014	5,941	6,354
Mining Development—					
Advances to companies, &c., boring for gold, coal, &c. ...	...	19,465	24,641	15,421	6,850
Miscellaneous	2,274	8,094	10,013	4,619	4,170
	57,290	79,524	144,075	247,882	268,779
	Expenditure from Surplus Revenue.				
Mining Development—					
Advances to companies, &c., boring for gold, coal, &c. .	21,757	19,357	5,001	2,095	737
	Expenditure from Loan Moneys.				
State Coal Mine	...	...	35,906	65,278	48,369
Total ...	79,047	98,881	184,982	315,255	317,885

Yearly grants are also made to Schools of Mines, particulars of which will be found on page 534 of this work. Since 1st July, 1896, £420,576 has been apportioned from loan receipts and expended on mining development, details of which expenditure appear in the next statement:—

LOAN MONEY EXPENDED ON MINING DEVELOPMENT.

	£
Advances to companies—Development of mining ...	62,740
,, ,, Boring for gold and coal, &c....	62,532
Construction of roads and tracks for mining	57,579
Plant for testing metalliferous material	12,357
Construction of races and dams	8,260
Advances to miners for prospecting	27,839
Purchase of cyanide process patent rights	20,000
Equipping Schools of Mines with mining appliances ...	9,975
State Coal Mine	149,554
Miscellaneous	9,740
Total	420,576

The advances from loan moneys and revenue to mining ocmpanies to 30th June, 1912, for the development of mining totalled £151,235, of which sum £18,837 had up to that date been repaid, £22,328 realized, and £60,719 written off, leaving £49,350 outstanding. Interest paid during 1911-12 amounted to £596, and interest outstanding on 30th June, 1912, to £1,865.

Persons engaged mining, 1911.

The following statement shows the manner of occupation of all persons connected with mining industries throughout the State according to the Census returns of 1911 :—

RETURN OF PERSONS ENGAGED IN MINING PURSUITS, 1911.

Persons following Mining Pursuits.	Employers of Labour.		Working on their own Account, but not employing Labour.		Receiving Salary or Wages.		Assisting but not receiving Wages.		Indefinite.		Not at work for more than a week prior to Census.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Mines department officer	..	..	..	..	138	3	..	..	1	..	2	..
Mine, gold, proprietor, manager, worker ..	277	1	1,735	..	11,456	..	10	..	1,246	..	733	..
Mine, tin, proprietor, manager, worker ..	5	..	8	..	33	..	..	..	2	..	3	..
Mine, silver, proprietor, manager, worker ..	..	..	..	..	5	..	..	..	1	..	2	..
Mine, coal, proprietor, manager, worker ..	1	..	2	..	1,326	..	..	..	7	..	48	..
Mine, iron, proprietor, manager, worker ..	..	..	1	..	..	..	..	..	..	..	..	..
Mine, copper, proprietor, manager, worker	..	..	..	..	46	..	..	..	..	..	5	..
Mine, precious stones, manager, worker ..	..	..	..	..	1	..	..	..	..	..	..	..
Others and undefined, proprietor, manager, worker	72	1	190	..	906	16	3	..	658	..	301	..
Quarry proprietor, manager worker ..	50	..	21	..	817	..	..	..	41	..	22	..
Others	2	..	7	..	3	..	..	..	1	..	..	..
	407	2	1,964	..	14,731	19	13	..	1,957	..	1,116	..

Total Males	20,188
Total Females	21
GRAND TOTAL	20,209

Gold miners. The average number of men employed in mining is estimated annually by the Mines Department. The figures for the ten years ended with 1912 are subjoined :—

NUMBER OF MEN EMPLOYED IN GOLD MINING, 1903 TO 1912.

Year.	Alluvial Miners.	Quartz Miners.	Total.
1903	11,058	14,150	25,208
1904	10,405	13,926	24,331
1905	11,403	13,966	25,369
1906	10,951	14,353	25,304
1907	10,390	12,901	23,291
1908	8,673	12,180	20,853
1909	7,925	10,746	18,671
1910	6,638	9,915	16,553
1911	5,144	8,871	14,015
1912	4,156	7,700	11,856

The number of men employed in each mining district in 1912 was as follows:—Ararat and Stawell, 739; Ballarat, 1,917; Bendigo, 3,202; Beechworth, 2,247; Castlemaine, 1,537; Gippsland, 731; and Maryborough, 1,483.

Mineral produce. The following table shows the quantity and value of the metals and minerals produced in Victoria up to the end of 1912 :—

TOTAL MINERAL PRODUCTION TO 31ST DECEMBER, 1912.

Metals and Minerals.	Recorded prior to 1912.		Recorded during 1912.		Total Recorded to end of 1912.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Fine. ozs.	£	Fine. ozs.	£	Fine. ozs.	£
Gold	68,192,737	289,663,989	480,131	2,039,464	68,672,868	291,703,453
Silver ..	1,342,828	204,159	17,424*	2,200	1,360,252*	206,359
	30,058	7,816	..	..	30,058	7,816
Platinum ..	184	989	..	..	184	989
	tons.		tons.		tons.	
Coal, black ..	4,077,909	2,177,562	589,143	258,455	4,667,052	2,436,017
„ brown ..	69,173	25,508	4,012	866	73,185	26,374
Ore—copper ..	18,694	215,761	..	..	18,694	215,761
„ tin ..	15,667	776,947	48	5,733	15,715	782,680
„ antimony ..	35,466	224,712	2,430	16,162	37,896	240,874
„ silverlead ..	793	5,760	..	..	793	5,760
„ iron ..	5,434	12,540	..	..	5,434	12,540
„ manganese ..	25	152	20	60	45	212
Wolfram	55	5,085	10	574	65	5,659
Diamonds ..	..	108	..	20	..	128
Sapphires, &c. ..	..	630	..	..	..	630
Gypsum ..	19,120	11,114	2,078	3,359	21,198	14,473
Magnesite ..	172	510	211	633	383	1,143
Kaolin	5,247	11,024	288	342	5,535	11,366
Diatomaceous earth	3,893	15,952	850	3,400	4,743	19,352
Pigment clays ..	68	80	13	26	81	106
Bluestone, Freestone, Granite, &c.† .. Limestone, &c.‡ ..	..	3,998,636	..	168,421	..	4,167,057
Total ..	..	297,359,034	..	2,499,715	..	299,858,749

* Extracted from gold at the Melbourne Mint.——† From 1866 only.——‡ Record from 1900.

The total quantity of gold raised from its first discovery in 1851 to the end of 1912 was 73,048,216 ounces gross, or, as shown above, 68,672,868 ounces fine, the estimated value being £291,703,453. This sum is based on the average value of the gold received at the Melbourne Mint, which in 1912 was £3 19s. per ounce. The yield of gold for 1912—516,255 ounces gross, or 480,131 ounces fine—was 25,819 ounces gross or 23,869 ounces fine less than the yield of the previous year. The falling off occurred mainly in the deep alluvial mines at Rutherglen and Ararat, and in the quartz mines at Ballarat, Berringa, and Omeo.

Mining district gold yields.

According to the calculations of the mining registrars, the yields of gold from alluvial workings and from quartz reefs during 1911 and 1912 in each mining district of the State were as follows:—

DISTRICT YIELDS OF GOLD, ALLUVIAL AND QUARTZ, 1911 AND 1912.

Mining District.	1911.			1912.		
	Alluvial.	Quartz	Total	Alluvial.	Quartz.	Total.
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Ararat and Stawell ...	15,966	6,009	21,975	11,438	8,104	19,542
Ballarat	15,704	64,884	80,588	11,034	53,315	64,349
Beechworth	79,175	19,520	98,695	70,493	15,252	85,745
Bendigo	2,520	166,140	168,660	2,812	169,204	172,016
Castlemaine ...	13,010	60,892	73,902	11,268	61,278	72,546
Gippsland	6,498	25,753	32,251	6,497	16,418	22,915
Maryborough ...	39,457	28,172	67,629	42,486	25,720	68,206
Total	172,330	371,370	543,700	156,028	349,291	505,319

In 1911, these calculations were in excess of the actual yield by 1,626 ounces, but in 1912 they were 10,936 ounces short of the yield.

Deep mines.

On 31st December, 1912, there were 15 mines on the Bendigo gold-field with shafts over 3,000 feet deep, namely, Victoria Reef Quartz, 4,614 feet; New Chum Railway, 4,318 feet; Lazarus New Chum, 3,682 feet; New Chum and Victoria, 3,579 feet; North Johnson's, 3,498 feet; Great Extended Hustler's, 3,493 feet; Carlisle, 3,460 feet; Lansell's 180, 3,365 feet; Clarence, 3,310 feet; Ironbark, 3,250 feet; Victoria Consols, 3,114 feet; New Chum Consolidated, 3,099 feet; Eureka Extended, 3,060 feet; Princess Dagmar, 3,020 feet; and Johnson's Reef No. 2, 3,020 feet. The total number of shafts over 2,000 feet in depth at Bendigo is fifty-three.

The following are the deepest mines on other gold-fields:—Long Tunnel, Walhalla, 4,051 feet incline and 350 feet vertical, equal to 3,450 feet vertical; Magdala, Stawell, 2,425 feet; Lord Nelson, St. Arnaud, 2,405 feet; South German, Maldon, 2,225 feet; and Jubilee, Scarsdale, 2,014 feet.

Dredge mining and hydraulic sluicing.

The number of gold dredging and hydraulic sluicing leases in force on 31st December, 1912, was 138, with an area of 14,797 acres. Prior to 1900 the yield of gold from dredging operations was 90,528 ounces, and from 1900 to 1912, 881,806 ounces were obtained from 6,569 acres worked, the average yield of gold being 134.2 ounces per acre, or 2.23 grains per cubic yard of material treated. The quantity of tin won by the same means during the period 1900-12 was 572 tons. The following tables give particulars of the industry for 1912:—

DREDGE MINING AND HYDRAULIC SLUICING, 1912.

District.	Number of Plants.	Gold won during 1912.	Dividends paid during 1912.*
		ozs.	£
Ararat and Stawell	1	801	...
Ballarat	9	3,384	194
Beechworth	53	53,066	26,073
Bendigo	5	1,999	700
Castlemaine	15	7,054	662
Gippsland...	6	5,547	4,525
Maryborough	5	1,363	166
Unspecified	5	567	...
Total	99	73,781	...

* These figures are merely approximate, as information was not furnished in connexion with some privately-owned plants.

DESCRIPTION OF DREDGING AND HYDRAULIC SLUICING PLANTS.

District.	Bucket Dredges.	Pump Hydraulic Sluices.	Jet Elevators.	Gravitation Hydraulic Sluicing.	Total.
Ararat and Stawell ...	...	1	...	...	1
Ballarat	...	7	2	...	9
Beechworth	47	3	3	...	53
Bendigo	...	5	...	...	5
Castlemaine	4	5	6	...	15
Gippsland	5	...	1	...	6
Maryborough	...	5	...	...	5
Unspecified	...	...	...	5	5
Total	56	26	12	5	99

The 56 bucket dredges raised 16,777,591 cubic yards of material and won 59,445 ounces of gold; the 26 pump hydraulic sluicing plants dealt with 2,445,009 cubic yards of material for a return of 11,148 ounces of gold; the 12 hydraulic jet elevators put through 407,265 cubic yards of material for a return of 2,621 ounces of gold; and the 5 plants working by gravitation hydraulic sluicing dealt with 92,362 cubic yards of material, which yielded 567 ounces of gold. The total quantity of material treated by these plants during 1912 was 19,722,227 cubic yards, representing an area of 676 acres, the amount of gold obtained being 73,781 ounces, and of tin 21 tons, as against a treatment of 20,144,347 cubic yards in 1911 for 81,594 ounces of gold, and 6 tons of tin. The yield of gold per cubic yard of material was 1.8 grains in 1912, as against 1.94 in the previous year. In 1912 the number of men employed in connexion with these 99 plants was 1,293, and their wages amounted to £134,841.

Value of machinery on gold-fields.

The following is a return showing the value of machinery used in alluvial and quartz mining for the five years ended 1912:—

VALUE OF MACHINERY ON GOLD-FIELDS, 1908 TO 1912.

Year.	Approximate Value of Machinery Employed in—		
	Alluvial Mining.	Quartz Mining.	Total.
	£	£	£
1908	933,470	1,797,825	2,731,295
1909	850,311	1,643,072	2,493,383
1910	803,636	1,621,972	2,425,608
1911	604,925	1,475,418	2,080,343
1912	552,856	1,208,798	1,761,654

Gold-mining dividends.

The next return shows the amount paid in dividends in each mining district of the State for the last five years:—

DIVIDENDS PAID BY GOLD MINING COMPANIES IN EACH MINING DISTRICT, 1908 TO 1912.

Mining District.	Amount Distributed.				
	1908.	1909.	1910.	1911.	1912.
	£	£	£	£	£
Ararat and Stawell	...	5,275	22,519	19,781	2,637
Ballarat	43,500	47,863	32,217	22,896	6,850
Beechworth	78,245	54,114	46,551	43,187	38,627
Bendigo	133,114	159,273	99,421	123,158	113,188
Castlemaine	18,669	48,225	55,619	53,462	41,937
Gippsland	44,515	6,960	6,600	2,250	675
Maryborough	1,250	17,500	15,000	20,950	12,867
Total	319,293	339,210	277,927	285,684	216,781

The yields of gold for the State and the dividends paid by gold-mining companies during the last ten years are given below :—

YIELDS AND DIVIDENDS, 1903 TO 1912.

Year.	Value of Gold Produced.	Dividends Paid.
	£	£
1903	3,259,482	601,152
1904	3,252,045	623,398
1905	3,173,744	454,431
1906	3,280,478	484,693
1907	2,954,617	317,412
1908	2,849,838	319,293
1909	2,778,956	339,210
1910	2,422,745	277,927
1911	2,140,855	285,684
1912	2,039,464	216,781

The dividends paid in the years mentioned range from 10.6 to 19 per cent. of the gold produced, the average for the ten years being 14 per cent.

Gold raised in Australasia.

The following table summarizes the production of gold in Australasia from 1851, the year of its first discovery, and shows the quantity recorded as having been raised in the respective States at different periods. Prior to 1898, Victoria was almost invariably the leading gold-producing State of the group, but since then Western Australia has taken first place :—

GOLD RAISED IN AUSTRALASIA, 1851 TO 1912.

Period.	Victoria.	New South Wales.	Queensland.	South Australia.*	Western Australia.	Tasmania.	New Zealand.
	gross ozs.	gross ozs.	gross ozs.	gross ozs.	gross ozs.	gross ozs.	gross ozs.
1851-60	23,334,263	3,280,963	75,000	..	..	..	35,845
1861-70	16,276,566	3,542,912	250,000	..	..	3,504	5,507,004
1871-80	10,156,297	2,251,666	3,187,855	84,593	..	180,178	4,009,345
1881-90	7,103,448	1,164,452	3,925,620	209,275	46,967	397,983	2,265,616
1891-00	7,476,038	2,958,295	7,358,129	355,208	5,870,662	605,519	2,788,398
1851-00	64,346,612	13,198,288	14,796,604	649,076	5,917,629	1,187,184	14,606,208
	fine ozs.	fine ozs	fine ozs.	fine ozs.	fine ozs.	fine ozs.	fine ozs.
1901 ..	730,453	216,888	598,382	28,951	1,703,416	69,491	412,876
1902 ..	720,866	254,435	640,463	24,082	1,871,037	70,996	459,406
1903 ..	767,297	254,260	668,546	22,269	2,064,801	59,891	461,648
1904 ..	765,600	269,817	639,151	17,925	1,983,230	65,921	467,897
1905 ..	747,166	274,267	592,620	20,447	1,955,316	73,540	492,955
1906 ..	772,290	253,987	544,636	14,077	1,794,547	60,023	534,617
1907 ..	695,576	247,363	466,476	11,871	1,697,553	65,354	477,312
1908 ..	671,208	224,792	465,085	9,161	1,647,911	57,085	471,968
1909 ..	654,222	204,709	455,576	7,989	1,595,269	44,777	472,465
1910 ..	570,383	188,857	441,400	11,645	1,470,632	37,048	446,434
1911 ..	504,000	181,121	386,164	11,680	1,370,868	31,101	427,385
1912 ..	480,131	165,295	347,946	7,340	1,282,658	37,973	310,963

* Quantity received at Melbourne and Sydney Mints.

The total production of Australasia from 1851 to 1900 inclusive, was 114¾ million ounces (gross), more than half of which was produced in Victoria. The Australasian production for the twelve years, 1901 to 1912, was nearly 44 million ounces (fine), to which Western Australia contributed about 20½ million ounces.

World's production of gold and silver.

The total production of gold and silver for all countries since 1860, and for the leading gold and silver producing countries in 1911, as set out in the following tables, have been extracted principally from the annual reports of the Director of the Mint, Washington, U.S.A. The figures relating to the year 1873 and subsequent years are those of the Bureau of the Mint, and have been compiled from information furnished by foreign Governments, and revised from the latest data:—

WORLD'S PRODUCTION OF GOLD AND SILVER SINCE 1860.

Year.	Gold.		Silver.	
	Ounces—Fine.	Value.	Ounces—Fine.	Value—Commercial.
		£		£
1860 to 1869	61,314,500	260,450,800	378,311,600	103,714,600
1870 to 1879	52,764,400	224,131,700	628,717,300	159,639,000
1880 to 1889	51,405,100	218,357,900	921,103,100	197,783,000
1890 to 1899	95,081,700	403,886,400	1,568,876,900	235,663,700
1900	12,315,100	52,312,000	173,591,400	22,115,800
1901	12,625,500	53,630,500	173,011,300	21,330,900
1902	14,354,700	60,975,600	162,763,500	17,726,200
1903	15,852,600	67,338,500	167,689,300	18,607,200
1904	16,804,400	71,381,300	164,195,300	19,569,200
1905	18,396,500	78,144,200	172,317,700	21,599,400
1906	19,471,100	82,708,900	165,054,500	22,957,200
1907	19,977,300	84,859,000	184,207,000	24,982,500
1908	21,422,200	90,923,000	203,131,400	22,327,200
1909	21,965,100	93,303,000	212,149,000	22,678,400
1910	22,023,200	93,549,700	221,707,600	24,601,400
1911	22,327,100	94,840,700	225,338,200	25,004,100
Total	478,100,500	2,030,793,200	5,722,165,100	960,299,800

World's Production of Gold and Silver—Principal Countries, 1911.

Country.	Gold.		Silver.	
	Ounces—Fine.	Value.	Ounces—Fine.	Value—Commercial.
		£		£
Africa	9,265,700	39,358,600	1,064,100	118,100
Australasia	2,912,300	12,370,700	16,578,400	1,839,600
Austria-Hungary	105,700	449,000	1,538,800	170,700
British India	534,700	2,271,500	104,300	11,600
Canada	472,200	2,006,000	32,740,700	3,633,000
Germany	3,000	12,900	5,597,000	621,100
Japan	193,900	823,500	4,414,400	489,800
Mexico	1,203,600	5,112,500	79,032,400	8,769,600
Peru	22,100	93,700	6,626,900	735,300
Russia	1,555,300	6,606,700	477,100	53,000
United States	4,687,100	19,909,600	60,399,400	6,702,100
Other Countries	1,371,500	5,826,000	16,764,700	1,860,200
Total	22,327,100	94,840,700	225,338,200	25,004,100

Coal production.

The following return shows the quantity of coal raised in each year, or group of years, since its first production :—

Coal Raised in Victoria to 31st December, 1912.

Year.	Tons.
Prior to 1876	9,640
From 1876 to 31st December, 1890 ..	64,625
From 1891 to 31st December, 1900 ...	1,719,778
1901	209,479
1902	225,164
1903	69,861
1904	121,742
1905	155,186
1906	160,631
1907	138,634
1908	113,962
1909	128,673
1910	369,709
1911	659,998
1912	593,155
Total	4,740,237

These particulars include brown coal and lignite.

The State coal-field.

The development of the Powlett River coal-field was undertaken by the State in November, 1909, and in June, 1911, the control of the mine was transferred to the Railways Commissioners. The area reserved for mining is about 17 square miles, and boring has proved that about 28,000,000 tons of coal exist in the central area of 5 square miles. The output of coal for the year 1912 was 455,658 tons, valued at £184,056 at the mine. The average number of men employed at the mine throughout the year ended 30th June, 1912, was 1,191, and comprised 598 coal miners, 161 wheelers, 173 others below ground, and 259 surface men. Fifty of the surface men were employed in the erection of buildings, machinery, &c. The mine worked 250 days during the year, and the earnings of the miners averaged 13s. 8d. per day after deducting the cost of explosives and lights. The net profit on the working of the mine for the financial year ended 30th June, 1912, was £9,833, as against that of the previous year, £24,102. The small profit in 1911-12 is attributable to a stoppage in developmental work for some time and to a strike which lasted from 4th April to 17th May.

Coal produced in Australasia.

The quantity of coal raised in the various States and in New Zealand from the date of the earliest records is given below. There is no record of any coal mining having been done in South Australia.

COAL PRODUCED IN AUSTRALASIA.

Year.	Tons of Coal raised in—					
	Victoria.	New South Wales.	Queensland.	Western Australia.	Tasmania.	New Zealand.
Prior to 1878	13,747	17,538,869	507,226	..	92,176	709,931
1878 to 1882..	1,987	8,503,937	305,692	..	54,110	1,408,893
1883 to 1887..	10,196	13,902,101	911,416	..	60,744	2,506,631
1888 to 1892..	107,454	17,738,842	1,444,669	..	208,060	3,179,846
1893 to 1897..	940,954	18,982,101	1,587,973	..	211,990	3,785,485
1898 to 1902..	1,154,348	26,721,213	2,440,078	434,716	235.221	5,566,597
1903 ..	69,861	6,354,846	507,801	133,000	49,069	1,420,193
1904 ..	121,742	6,019,809	512,015	138,550	61,109	1,537,838
1905 ..	155,186	6,632,138	529,326	127,364	51,993	1,585,756
1906 ..	160,631	7,626,362	606,772	149,755	52,896	1,729,536
1907 ..	138,634	8,657,924	683,272	142,372	58,891	1,831,009
1908 ..	113,962	9,147,025	696,332	175,248	61,067	1,860,975
1909 ..	128,673	7,019,879	756,577	214,302	61,162	1,911,247
1910 ..	369,709	8,173,508	871,166	262,166	82,445	2,197,362
1911 ..	659,998	8,691,604	891,568	249,899	57,067	2,066,073
1912 ..	593,155	9,885,815	902,166	295,079	53,560	2,177,615

NOTE.—For details of single years see issue of this publication for 1905.

Coal production of the world.

The total known coal production of the world (exclusive of brown coal and lignite) in 1911 was about 1,050 million tons, of which the United Kingdom produced more than one-fourth, and the United

States more than two-fifths. The following return shows the production and consumption of coal in the principal coal-producing countries of the world :—

COAL PRODUCED IN VARIOUS COUNTRIES, 1911.

Country.	Production.	Value per ton at Collieries.	Excess of Imports (+) or Exports (−)	Number of Men Employed under and over ground.
	Tons.	s. d.	Tons.	
Australia	10,550,136	7 5½	−3,133,000	21,762
New Zealand	2,066,073	10 10¼	−36,000	4,290
Austria	14,149,000	8 5¼	+10,692,000*	74,044
Belgium	22,683,000	12 0	+ 1,443,000	144,054
British India	12,716,000	3 11¼	−543,000	116,155
Canada	10,082,000	10 9	+11,718,000	25,563
France	38,023,000	12 3½†	+19,110,000	199,786†
German Empire	158,164,000	9 9¼	−24,727,000	621,121†
Japan	15,763,000	6 8½†	−5,001,000	137,467†
Russian Empire	22,824,000	10 4‡	+5,474,000	174,061‖
United Kingdom	271,899,000	8 1⅝	−87,040,000	1,045,272
United States	443,025,000	5 10¾	−17,603,000	722,322

* Austria-Hungary. † Figures for 1910 ‡ Figures for 1907. ‖ Figures for 1908.

Quarries. There were 88 quarries in which work was carried on during 1912; these gave employment to 1,296 persons, and the sum paid in wages was £143,479. These figures include the persons employed and wages connected with stone-breaking and tar-paving works, most of which are carried on in conjunction with quarries, and cannot be separated therefrom.

The quantity and value of stone raised during the last five years are set forth in the following table :—

QUARRIES : 1908 TO 1912.

Year.	Quantity of Stone Operated on—				Approximate Total Value of Stone Raised.
	Bluestone.	Free-stone.	Granite.	Limestone.	
	c. yds.	c. yds.	c. yds.	c yds.	£
1908	491,446	1,594	713	54,671	84,479
1909	525,555	370	838	55,134	88,610
1910	636,029	5,469	345	58,274	114,955
1911	760,699	3,936	310	62,610	151,426
1912	837,088	8,351	1,687	58,755	161,843

Boring.

During 1912 the Mines Department had the following boring plant at work:—Six diamond drills with calyx cutters, six Victoria drills with calyx cutters, and one pioneer drill. Twelve of these machines were engaged in boring for coal, and put down 94 bores, the aggregate depth of which was 37,112 feet. The remaining drills were employed in boring for gold, and sank 8 bores for an aggregate depth of 626 feet.

Government batteries.

Government batteries are located in 25 districts, and during 1912 treated 2,887 tons of ore, which yielded 2,491 ounces of gold, the net cost to the Mines Department being £2,418.

Cyanidation.

There were 209 plants at work treating tailings by the cyanide process during 1912, this number representing a decrease of 39 in comparison with that for the year 1911. The total quantity of gold obtained in the year was 55,470 ounces, valued at £200,277, from 881,306 tons of tailings, or an average of 1 dwt. 6 grs. per ton, being a decrease of 221,650 in tonnage of tailings treated, and of 4,516 ounces in yield, as compared with the previous year. The records show that since the introduction of methods of this kind a grand total of 13,807,730 tons of tailings has been treated by cyanide and other processes for 1,120,718 ounces of gold, the yield being equal to an average of 1 dwt. 15 grs. per ton.

Mining accidents.

The number of accidents happening in 1912 in connexion with gold mining was 86, in which 16 persons were killed and 76 seriously injured. In the last twenty years the average annual number of men employed in gold mining was 25,045, and the average yearly number of accidents 108, 29 persons per annum being killed, and 87 injured, or 1.15 and 3.47 respectively per thousand employed. In coal mining during 1912, 2 persons were killed and 19 injured, and during the twenty-four years, 1889-1912, accidents were responsible for 34 persons being killed and 180 being injured. Since 1905, only those non-fatal accidents have been recorded which incapacitated the sufferer from work for a period of at least fourteen days.

Manufactories.

Definition of a factory

That which is regarded in the subsequent tables as constituting a factory is any establishment employing on the average four persons or more, also those employing less than four persons where machinery is worked by other than manual power, whether the business carried on is that of making or repairing for the trade (wholesale or retail) or for export.

Classification of factories

The classification of industries adopted was drawn up in 1902 at a conference of Australian statisticians. Where two or more industries are carried on by one proprietor in the same building, each industry is, where possible, treated as a separate undertaking. The following table shows, for the year 1912, the number of factories in each class of industry, the volume of power used, the number of

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1912.

persons employed, the wages paid, and the other chief items of expenditure, also the value of articles produced or work done:—

Nature of Industry.	Number of Manufactories.	Actual Horse-power of Engines used.	Average Number of Persons Employed.				Value of—			
			Males.		Females.		Wages paid exclusive of amounts drawn by Working Proprietors.	Fuel and Light used.	Materials Used.	Articles Produced or Work Done.
			Working Proprietors.	Employés.	Working Proprietors.	Employés.				
							£	£	£	£
Class I.—Treating Raw Material the product of Pastoral Pursuits, or Vegetable Products, not otherwise classed.										
Boiling down	18	143	12	128	..	..	13,072	3,610	154,059	199,833
Bone milling	17	479	11	116	1	3	12,407	3,940	63,348	92,277
Tanning	55	1,471	62	1,475	1	10	168,567	10,935	1,059,941	1,371,741
Fellmongering	35	690	39	408	1	..	36,483	4,424	443,107	520,075
Chaffcutting and grain crushing ..	202	1,817	214	656	4	13	51,281	8,249	698,614	827,921
Other	8	53	4	220	..	1	22,632	203	44,338	70,200
Total	335	4,653	342	3,003	7	27	304,442	31,361	2,463,407	3,082,047
Class II.—Oils and Fats, Animal and Vegetable.										
Oil, Grease, Glue, Soap, and Candle..	24	474	9	612	..	42	67,824	11,529	428,229	632,707

Class III.—Processes relating to Stone, Clay, Glass, &c.										
Brick, pottery, &c.	119	4,504	102	2,014	..	33	236,526	75,195	48,387	508,593
Cement, including cement pipes ..	5	1,040	3	248	..	2	30,342	6,477	19,812	74,717
Glass, including bottles	8	104	15	796	..	1	83,721	23,489	25,288	161,719
„ bevelling	20	74	22	235	..	3	25,587	838	44,903	92,376
Marble and stone dressing	42	232	50	378	..	2	48,069	916	55,724	136,006
Other	28	101	31	271	..	1	31,186	7,223	17,811	89,608
Total	222	6,055	223	3,942	..	42	455,431	114,138	211,925	1,063,019
Class IV.—Working in Wood.										
Cooperage	14	53	12	104	..	..	13,172	172	13,258	31,295
Sawmilling, moulding, &c.	342	8,521	383	6,006	..	30	659,503	10,547	980,565	1,992,628
Mantelpiece	15	40	20	248	..	4	27,169	162	30,902	69,346
Wood carving, turning	34	358	37	230	..	8	23,506	1,777	29,167	71,171
Other	8	45	12	95	..	2	9,914	263	16,301	33,832
Total	413	9,017	464	6,683	..	44	733,264	12,921	1,070,193	2,198,272
Class V.—Metal Works, Machinery, &c.										
Agricultural implement	67	1,014	75	2,576	..	14	309,789	19,388	329,397	799,217
Engineering, iron foundry, &c. ..	326	5,857	382	8,210	..	57	988,802	83,841	1,154,377	2,640,453
Railway workshop	15	1,229	..	4,627	..	4	626,258	19,904	876,576	1,653,116
Sheet-iron, tin, &c.	70	299	60	1,234	..	142	123,115	3,046	237,887	427,689
Brass, copper smithing	58	316	73	835	..	29	82,936	4,874	87,445	210,618
Wireworking	16	158	16	237	..	8	23,184	751	65,553	117,410
Metallurgical, &c., cyanide ..	86	405	112	575	..	..	56,178	5,896	99,050	218,956
Oven, range	21	99	25	194	..	..	20,862	1,029	26,749	59,221
Other	55	1,030	55	579	2	5	61,631	5,319	159,903	270,043
Total	714	10,407	798	19,067	2	259	2,292,755	144,048	3,036,937	6,396,723

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1912—*continued*.

Nature of Industry.	Number of Manufactories.	Actual Horse-power of Engines used.	Average Number of Persons Employed.				Value of—			
			Males.		Females.		Wages paid exclusive of amounts drawn by Working Proprietors.	Fuel and Light used.	Materials Used.	Articles Produced or Work Done.
			Working Proprietors.	Employés.	Working Proprietors.	Employés.				
							£	£	£	£
Class VI.—Connected with Food and Drink or the preparation thereof.										
Bacon curing	29	512	34	390	1	9	45,794	4,965	533,483	634,366
Butter, cheese, butterine	200	2,856	47	1,300	..	96	155,511	26,917	3,291,776	3,682,522
Meat freezing, preserving, &c. ..	12	2,886	8	1,038	..	9	106,339	18,449	926,876	1,110,230
Biscuit	5	271	4	875	..	515	95,770	9,225	366,796	599,178
Flourmilling	61	4,602	54	789	1	1	95,266	22,858	2,179,608	2,565,014
Jam, sauce, &c.	31	304	24	922	2	789	110,740	7,782	526,493	798,386
Oatmeal, starch, &c.	27	1,320	17	379	..	261	55,387	6,405	292,477	419,346
Sugar, confectionery, &c.	30	1,251	38	1,124	2	797	149,560	25,611	1,423,169	1,741,937
Aerated water, cordial, &c. ..	152	523	140	1,029	4	39	108,714	3,965	190,491	476,033
Malt	20	226	9	214	..	..	28,064	6,430	356,274	458,492
Brewing	29	2,517	24	984	..	..	149,605	24,619	436,717	980,927
Distilling	7	157	5	36	..	..	2,271	907	23,869	33,147
Condiments, coffee, cocoa, &c. ..	11	546	4	168	..	101	26,268	3,171	235,040	310,907
Tobacco, &c.	16	472	12	984	1	791	191,162	2,504	674,017	1,196,151
Other	22	1,264	13	236	3	12	27,849	7,480	27,044	93,904
Total	652	19,707	433	10,468	14	3,420	1,348,300	171,288	11,484,130	15,100,540

Class VII.—Clothing and Textile Fabrics, and Fibrous Material.											
Woollen mill	10	2,341	7	747	..	918	115,096	13,668	245,220	473,880
Clothing, Tailoring, &c.	442	346	399	2,104	21	8,067	625,300	11,924	1,024,987	2,020,029
Dressmaking and millinery ..	491	242	78	178	367	9,162	398,638	6,656	760,967	1,406,273
Underclothing, shirt	156	456	64	217	103	5,861	265,366	7,085	553,005	926,026
Hat, cap	39	415	35	680	5	1,083	137,457	5,095	189,267	413,443
Hosiery	42	171	28	84	25	965	56,765	1,448	131,299	227,382
Oilskin, waterproof clothing ..	6	20	6	61	1	253	22,262	427	52,518	93,018
Boot, shoe	151	1,168	183	4,134	7	2,450	570,025	9,292	1,132,045	1,951,998
Umbrella	9	12	9	57	1	147	13,654	265	50,639	75,255
Rope, twine, &c.	9	1,317	11	413	..	290	51,887	3,578	195,556	307,576
Sail, tent, &c.	15	18	12	97	..	62	12,133	225	40,648	63,593
Other	37	68	30	178	12	372	34,363	1,479	95,753	164,021
Total	1,407	6,574	862	8,950	542	29,630	2,302,946	61,142	4,471,904	8,122,494
Class VIII.—Books, Paper, Printing, Engraving, &c.										
Printing	350	2,436	415	4,863	7	1,113	696,626	21,710	641,358	2,029,904
Account-book, stationery, paper, &c.	20	256	23	632	2	622	88,268	2,759	133,319	283,550
Fancy box	26	79	24	145	4	517	40,330	1,039	56,061	123,724
Die sinking, engraving, &c ..	16	36	18	153	..	3	17,660	540	12,757	42,643
Other	15	1,031	13	312	..	35	37,473	9,523	60,219	145,546
Total	427	3,838	493	6,105	13	2,290	880,357	35,571	903,714	2,625,367
Class IX.—Musical Instruments ..	5	233	5	173	..	11	22,135	113	16,160	43,759
Class X.—Arms and Explosives ..	9	257	8	229	..	470	60,074	1,908	131,511	215,516

FACTORIES—POWER, WORKERS, WAGES, ETC., AND PRODUCTION, 1912—*continued.*

Nature of Industry.	Number of Manufactories.	Actual Horse-power of Engines used.	Average Number of Persons Employed.				Value of—			
			Males.		Females.		Wages paid exclusive of amounts drawn by Working Proprietors.	Fuel and Light used.	Materials Used.	Articles Produced or Work Done.
			Working Proprietors.	Employés.	Working Proprietors.	Employés.				
							£	£	£	£
Class XI.—Vehicles and Fittings, Saddlery, Harness, &c.										
Coach, motor building, cycle ..	368	775	423	3,512	1	40	347,549	12,028	317,428	834,981
Saddle, harness	54	19	61	502	..	59	56,864	451	82,020	168,201
Other	12	25	15	132	1	2	13,489	235	18,132	37,270
Total	434	819	499	4,146	2	101	417,902	12,714	417,580	1,040,452
Class XII.—Shipbuilding, Fitting, &c.	13	1,166	12	228	..	..	30,499	973	15,080	59,667
Class XIII.—Furniture, Bedding, &c.										
Upholstery, bedding, &c.	43	216	32	373	4	173	48,675	1,434	146,186	233,679
Cabinet, including billiard table ..	177	685	222	1,781	..	45	205,967	2,455	265,528	569,193
Picture frame	22	88	21	210	1	44	23,002	775	35,487	73,357
Other	13	144	16	325	..	16	32,656	1,907	62,796	112,235
Total	255	1,133	291	2,689	5	278	310,300	6,571	509,997	988,464

Class XIV.—Drugs, Chemicals, and By-products.										
Blacking, blue, &c.	16	142	13	162	..	135	20,649	816	105,426	182,059
Chemical	35	1,617	27	955	3	236	127,421	10,805	497,326	827,075
Other	37	90	54	215	1	3	14,901	476	28,558	60,112
Total	88	1,849	94	1,332	4	374	162,971	12,097	631,310	1,069,246
Class XV.—Surgical and Scientific Appliances	18	21	8	74	..	8	8,128	420	6,843	21,375
Class XVI.—Timepieces, Jewellery, and Platedware	85	184	99	861	..	77	104,274	2,907	187,411	382,168
Class XVII.—Heat, Light, and Energy.										
Electric Light	24	20,005	..	659	..	7	89,435	46,448	743	309,156
Gas, coke	47	898	5	1,828	..	2	275,755	..	260,209	873,134
Other	19	1,225	15	239	..	297	40,729	4,356	65,657	137,384
Total	90	22,128	20	2,726	..	306	405,919	50,804	326,609	1,319,674
Class XVIII.—Leatherware (except Saddlery and Harness)	32	148	35	361	1	208	45,143	1,294	182,434	275,118
Class XIX.—Wares, not elsewhere included										
Rubber goods	11	571	6	827	..	299	109,987	11,037	429,726	634,013
Brush, broom	15	54	14	213	3	64	25,723	495	66,419	109,552
Basket, wickerware	14	2	17	144	..	..	13,870	45	10,783	30,600
Total	40	627	37	1,184	3	363	149,580	11,577	506,928	774,165
Grand Total	5,263	89,290	4,732	72,833	593	37,950	10,102,244	683,376	27,002,302	45,410,773

The amount of wages paid during the year (£10,102,244) represents an average payment for all employés of £91 4s., an increase of £7 14s. on the average for 1911, of £13 on that for 1910, of £17 13s. on that for 1909, of £19 12s. on that for 1908, of £21 18s. on that for 1907, and of £23 10s. on that for 1906. Concurrently with this increase there was a slight change in the relative proportions of male and female workers during the seven years, the proportions being:—66 per cent. males and 34 per cent. females in 1912; 66 per cent. males and 34 per cent. females in 1911; 64 per cent. males and 36 per cent. females in 1910; 63 per cent. males and 37 per cent. females in 1909; 64 per cent. males and 36 per cent. females in 1908; and 65 per cent. males and 35 per cent. females in 1907 and 1906. The above average wage for 1912 is very much below the general rates of wages as shown in the table "Wages in Melbourne" on page 758, the reason being that the rates there mentioned relate to adult workers only, whereas the average payment of £91 4s. relates to all employés, adult and juvenile, male and female, apprentices and improvers, employed in each industry. Further, all hands are not continuously employed, nor are all factories working throughout the whole year.

Outlay and output of factories.

The proportion per cent. that each of the items of outlay bore to the value of the output in the last two years is shown in the next statement.

OUTLAY AND OUTPUT OF FACTORIES: 1911 AND 1912.

—	1911.		1912.	
	Value.	Proportion per cent.	Value.	Proportion per cent.
	£		£	
Wages	8,911,019	21·3	10,102,244	22·2
Fuel and Light ...	637,497	1·5	683,376	1·5
Materials	25,029,525	60·0	27,002,302	59·5
	34,578,041	82·8	37,787,922	83·2
Articles produced or work done	41,747,863	100·0	45,410,773	100·0
Margin for profit and miscellaneous expenses	7,169,822	17·2	7,622,851	16·8

The percentage of the total of the various items of outlay to the value of articles produced was ·4 more in 1912 than in 1911, chiefly owing to an increase in the proportionate amount paid in wages. The percentage that the difference between output and outlay, available for miscellaneous expenses and profit, bore to the output was consequently ·4 less than in 1911.

The following grouping shows the factories arranged according to the number of persons employed:— Classification according to persons employed.

Under 4 hands	800 factories	1,912 persons.
4 hands	588 ,,	2,352 ,,
5 to 10 hands	1,844 ,,	12,831 ,,
11 to 20 hands	939 ,,	13,805 ,,
21 to 50 hands	674 ,,	21,298 ,,
51 to 100 hands	223 ,,	15,368 ,,
101 hands and upwards ...	195 ,,	48,542 ,,
Total	5,263 ,,	116,108 ,,

Of the 5,263 establishments, 3,653 used steam, gas, electric or other motive power, and employed 98,235 persons; and 1,610 used manual labour only, and employed 17,873 persons.

In the next return will be found particulars for the years 1911 and 1912 of the factories in the metropolitan and country districts. Factories, metropolitan and country.

FACTORIES AND PERSONS EMPLOYED, METROPOLIS AND COUNTRY: 1911 AND 1912.

Nature of Industry.	1911.			1912.		
	No. of Manufactories.	Average Number of Persons Employed		No. of Manufactories.	Average Number of Persons Employed.	
		Males.	Females		Males.	Females
Metropolitan Area.						
1. Treating raw material, the product of pastoral pursuits, &c.	84	2,124	13	85	2,027	10
2. Oils and fats, animal and vegetable ..	12	486	26	12	536	41
3. Processes relating to stone, clay, glass, &c.	96	2,768	15	100	3,151	21
4. Working in wood	168	3,947	30	188	4,458	33
5. Metal works, machinery, &c. ..	440	13,873	166	471	15,691	237
6. Connected with food and drink, &c. ..	197	6,856	3,288	195	7,134	3,112
7. Clothing and textile fabrics, &c. ..	1,128	8,328	26,084	1,102	8,239	25,930
8. Books, paper, printing, engraving, &c.	255	5,070	2,158	264	5,253	2,188
9. Musical instruments	5	185	12	5	178	11
10. Arms and explosives	6	159	223	6	201	409
11. Vehicles, &c., saddlery, harness, &c. ..	219	2,710	75	228	2,857	69
12. Shipbuilding, fitting, &c.	11	127	..	12	234	...
13. Furniture, bedding, &c.	222	2,695	264	233	2,828	275
14. Drugs, chemicals, and by-products ..	50	1,003	337	53	1,092	367
15. Surgical and scientific appliances ..	16	74	5	17	79	7
16. Timepieces, jewellery, and platedware	74	882	64	79	931	75
17. Heat, light, and energy	29	2,131	351	32	2,366	305
18. Leatherware, except saddlery and harness	32	412	222	32	396	209
19. Wares not elsewhere included ..	44	1,142	360	40	1,221	366
Total	3,088	54,972	33,693	3,154	58,872	33,665

FACTORIES AND PERSONS EMPLOYED—*continued.*

Nature of Industry.	1911.			1912.		
	No. of Manufactories.	Average Number of Persons Employed.		No. of Manufactories.	Average Number of Persons Employed.	
		Males.	Females		Males.	Females
Country Districts.						
1. Treating raw material, the product of pastoral pursuits, &c.	253	1,385	21	250	1,318	24
2. Oils and fats, animal and vegetable ..	11	88	1	12	85	1
3. Processes relating to stone, clay, glass, &c.	119	944	26	122	1,014	21
4. Working in wood	207	2,671	6	225	2,689	11
5. Metal works, machinery, &c. ..	234	4,013	17	243	4,174	24
6. Connected with food and drink, &c. ..	454	3,984	304	457	3,767	322
7. Clothing and textile fabrics, &c. ..	288	1,472	4,074	305	1,573	4,242
8. Books, paper, printing, engraving, &c.	165	1,366	112	163	1,345	115
10. Arms and explosives	3	37	56	3	36	61
11. Vehicles, &c., saddlery, harness, &c. ..	191	1,809	36	206	1,788	34
12. Shipbuilding, fitting, &c.	1	6	..	1	6	..
13. Furniture, bedding, &c.	20	154	9	22	152	8
14. Drugs, chemicals, and by-products ..	31	317	15	35	334	11
15. Surgical and scientific appliances ..	1	4	1	1	3	1
16. Timepieces, jewellery, and platedware	6	27	2	6	29	2
17. Heat, light, and energy	54	324	2	58	380	1
Total	2,038	18,601	4,682	2,109	18,693	4,878
State.						
1. Treating raw material, the product of pastoral pursuits, &c.	337	3,509	34	335	3,345	34
2. Oils and fats, animal and vegetable ..	23	574	27	24	621	42
3. Processes relating to stone, clay, glass, &c.	215	3,712	41	222	4,165	42
4. Working in wood	375	6,618	36	413	7,147	44
5. Metal works, machinery, &c. ..	674	17,886	183	714	19,865	261
6. Connected with food and drink, &c. ..	651	10,840	3,592	652	10,901	3,434
7. Clothing and textile fabrics, &c. ..	1,416	9,800	30,158	1,407	9,812	30,172
8. Books, paper, printing, engraving, &c.	420	6,436	2,270	427	6,598	2,303
9. Musical instruments	5	185	12	5	178	11
10. Arms and explosives	9	196	279	9	237	470
11. Vehicles, &c., saddlery, harness, &c. ..	410	4,519	111	434	4,645	103
12. Shipbuilding, fitting, &c.	12	133	..	13	240	..
13. Furniture, bedding, &c.	242	2,849	273	255	2,980	283
14. Drugs, chemicals, and by-products ..	81	1,320	352	88	1,426	378
15. Surgical and scientific appliances ..	17	78	6	18	82	8
16. Timepieces, jewellery, and platedware	80	909	66	85	960	77
17. Heat, light, and energy	83	2,455	353	90	2,746	306
18. Leatherware, except saddlery and harness	32	412	222	32	396	209
19. Wares not elsewhere included ..	44	1,142	360	40	1,221	366
Total	5,126	73,573	38,375	5,263	77,565	38,543

The factories in the metropolitan area in 1912 exceeded by 66 the number in 1911 and by 264 that in 1910, whilst those in country districts numbered 71 more than in 1911, and 126 more than in 1910.

The industries in the different classes showing a larger number of factories in 1912 than in 1911, both metropolitan and country, are as follows:—

Class 1—Bonemilling, 1; fellmongering, 3. Class 2—Soap, candle, 1. Class 3—Cement, 1; lime, 2; asbestos, 1; stone, &c., 3; modelling, 2. Class 4—Cooperage, 1; corkcutting, 1; forest sawmilling, 8; moulding, 24; mantelpiece, 4. Class 5—Agricultural implement, 8; engineering, 22; cutlery, 2; nail, 1; iron safe, 1; sheet-iron, 4; oven, 3; lead, 1; cyanide, 1. Class 6—Bacon-curing, 3; biscuit, 1; jam, pickle, sauce, 3; oatmeal, &c., 2; aerated waters, 5; ice, 1; tobacco, &c., 1. Class 7—Clothing, tailoring, 15; underclothing, shirt, 4; hosiery, 8; waterproof clothing, 1; fur, 6; feather-dressing, 1; sail, tent, tarpaulin, 2. Class 8—Printing, 4; fancy box, 2; die-sinking, 1. Class 11—Coach, &c., 13; carriage lamp, 1; cycle, 16. Class 12—Dock, &c., 1. Class 13—Bedstead, 2; cabinetmaking, 16; picture frame, 1. Class 14—Blacking, blue, &c., 2; chemical, 1; essential oil, 4. Class 15—Surgical, optical, &c., appliances, 1. Class 16—Goldsmithing, &c., 5. Class 17—Electric apparatus, 4; electric light, 4.

The industries in which the number of factories was less in 1912 than in 1911 are:—

Class 1—Boiling down, 2; tanning, 1; chaffcutting, 3. Class 3—Brick, pottery, 1; glass, 1. Class 5—Patternmaking, 1; metallurgical, 1; pyrites, 1. Class 6—Butter and cheese, 2; meat freezing or preserving, 5; confectionery, 3; malt, 1; brewing, 4. Class 7—Dressmaking, &c., 39; hat and cap, 4; boot and shoe, 3. Class 11—Perambulator, 1; saddle and harness, 4; whip, 1. Class 13—Upholstery, 5; venetian blind, 1. Class 17— Fire-kindler, 1. Class 19—Basket, wicker, 3; rubber goods, 1

Since 1911 workers in metropolitan factories have increased by 3,872, there having been an addition of 3,900 males and a reduction of 28 females. Workers in country factories have during the same period increased by 288; the number of males being greater by 92 and that of females by 196 than in 1911.

The industries in the State showing the largest increases in the average number of workers employed in 1912, as compared with the previous year are as follows:—Soap and candle, 60 persons more; brickmaking, 183; glass bottle, &c., 108; saw-moulding, 588; engineering, 1,277; railway workshops, 504; sheet-iron, tin, 100; brass, coppersmithing, &c., 122; biscuit, 165; jam, &c., 136; oatmeal, &c., 128; underclothing, 229; hosiery, 222; waterproof clothing, 107; printing, 191; arms and explosives, 232; cycle, motor, 246; graving docks, 105; cabinetmaking, 116; chemical works, 98; electric light, 76; and gas works, 234 persons more.

There are only six industries which show serious decreases in the number of persons employed in 1912 as compared with the previous year; they are as follows:—Meat preserving, 210 persons less; tobacco, 224; dressmaking, 110; hat and cap, 214; boot and shoe, 227; and saddle and harness, 91 persons less.

Factories and works for ten years.

The following summary shows the power used, persons employed, and value of machinery, land, and buildings for each of the last ten years:—

FACTORIES—POWER, EMPLOYÉS, ETC.: 1903 TO 1912.

Year.	Number of Factories.	Factories using Machinery worked by—				Actual Horse-Power of Engines Used.
		Steam.	Gas.	Electricity, Oil, Water, Wind, or Horse.	Manual Labour.	
1903	4,151	1,316	724	437	1,674	42,750
1904	4,208	1,304	734	509	1,661	40.859
1905	4,264	1,276	715	615	1,658	43,492
1906	4,360	1,255	709	712	1,684	48,765
1907	4,530	1,270	727	838	1,695	52,703
1908	4,608	1,220	741	962	1,685	58,945
1909	4,755	1,192	779	1,098	1,686	63,761
1910	4,873	1,169	794	1,276	1,634	69,373
1911	5,126	1,147	811	1,516	1,652	79,515
1912	5 263	1,134	821	1,698	1,610	89,290

Year.	Average Number of Persons Employed.			Approximate Value of—		
	Males.	Females.	Total.	Machinery and Plant.	Land.	Buildings and Improvements.
				£	£	£
1903	49,434	23,795	73,229	5,010,896	2,855.174	5,112,771
1904	50,554	25,733	76,287	6,027,134	2,721,076	4,919,975
1905	52,925	27,310	80,235	6,187,919	2,767,071	5,004,167
1906	56,339	28,890	85,229	6,450,355	2,857,411	5,204,699
1907	59,691	31,212	90,903	6,771,458	2,932,036	5,444,606
1908	60,873	32,935	93,808	6,957,606	2,972,959	5,616,068
1909	62,822	34,533	97,355	7,140,304	2,903,506	5,738,838
1910	66,309	35,867	102,176	7,601,085	2,973,916	6,038,347
1911	73,573	38,375	111,948	8,336,373	3,112,153	6,809,367
1912	77,565	38.543	116.108	9,095.134	3.261.738	7,100,923

This table shows that there has been considerable progress during the last ten years. The factories have increased to the extent of 1,112, the actual horse-power of engines by 46,540, the persons employed by 42,879, of whom 28,131 are males and 14,748 females, the approximate value of machinery and plant by £4,084,238, and that of buildings, &c., by £1,988,152. A noticeable feature in connexion with the power employed is the increase in the number of factories using electricity; in 1912 these numbered 1,327 as compared with only 261 in 1904.

In the next table the persons employed in factories during the last five years are grouped according to the nature of their work. The total number last year shows an increase of 4,160 as compared with 1911, and of 22,300 as compared with 1908:— Persons employed, male and female.

TOTAL PERSONS EMPLOYED.

	1908.	1909.	1910.	1911.	1912.
Males	60,873	62,822	66,309	73,573	77,565
Females	32,935	34,533	35,867	38,375	38,543
Total	93,808	97,355	102,176	111,948	116,108

CLASSIFICATION OF PERSONS EMPLOYED.

	1908.	1909.	1910.	1911.	1912.
Working Proprietors—					
Males	4,056	4,172	4,315	4,562	4,732
Females	629	643	638	639	593
Managers and Overseers—					
Males	2,222	2,324	2,399	2,566	2,645
Females	388	420	478	492	446
Accountants and Clerks—					
Males	2,461	2,540	2,592	2,784	2,898
Females	478	531	653	740	778
Engine-drivers and Firemen—					
Males	1,568	1,560	1,587	1,794	1,712
Workers in Factories—					
Males	46,545	48,251	51,569	57,757	61,510
Females	30,046	31,298	32,527	34,630	34,814
Factory Workers working in their own homes—					
Males	106	122	69	94	108
Females	1,351	1,573	1,515	1,812	1,851
Carters and Messengers—					
Males	2,945	2,949	2,880	3,021	2,999
All Others—					
Males	970	904	898	995	961
Females	43	68	56	62	61

The number of children under 16 years of age employed in factories has decreased considerably during the last four years, as will be seen from the following statement:— Children employed.

AVERAGE NUMBER OF CHILDREN UNDER 16 YEARS OF AGE, EMPLOYED IN FACTORIES, 1906 TO 1912.

Year.	Males.	Females.	Total.
1906	3,213	2,997	6,210
1907	3,253	3,095	6,348
1908	3,049	3,065	6,114
1909	2,817	2,496	5,313
1910	2,753	2,174	4,927
1911	2,623	1,937	4,560
1912	2,652	1,740	4,392

The following is a statement of the rates of wages ruling in the various industries in Melbourne during 1912, the information having been compiled from determinations of Wages Boards or collected direct from the employers :—

WAGES IN MELBOURNE, 1912.

A.—Wages for Adult Workers in Classified Manufacturing Industries.

Industries.	Occupations.	Wages.	
		Range.	General Rate.
Class I.—Treating Raw Material the product of pastoral pursuits or vegetable products not otherwise classed.			
Order 1.—Animal products.			
Boiling down ..	Men employed in boiling down and bone mills	..	45s. per week
Bone milling ..	Carters	45s. to 50s. per week	..
Sausage casing	Sausage skin cleaners	45s. to 50s. „	47s 6d per wk.
Tanning	Slicker whiteners ..	..	57s. „
	Fleshers	..	54s. „
	Jiggers and grainers ..	..	52s. „
	Rollers and strikers ..	..	50s. „
	Machine shavers ..	..	50s. „
	Scudders, unhairers, stoners, and Japanners	..	49s. „
	Fancy leather machinists	..	47s. „
	Labourers in sheds, vats, &c.	..	45s. „
Fellmongering	Foremen scourers, tanners, headers, and trotters	..	45s. „
	Men in charge of limes	..	45s. „
	Hands at burring and fleshing machines	..	42s. „
	Wool sorters ..	..	45s. „
	Wool pressers and others	..	36s. „
Order 2.—Vegetable products.			
Chaff-cutting	Labourers and carters	45s. to 48s. per week	47s. „
Class II.—Oils and Fats, Animal and Vegetable.			
Oil, grease, and glue ..	Labourers	..	7s. 6d. per day
Soap and soda	Soapmakers ..	..	62s 6d per wk.
	Assistant soapmakers	..	55s. „
	Foremen	..	55s. „
	Men in charge of milling-room	..	52s. „
	Mixers	..	48s. „
	General hands ..	..	45s. „
	Wrappers, packers, and stampers—male	..	45s. „
	Stampers, female ..	..	45s. „
	Wrappers and packers —female	..	25s. „
Candle	Stillmen	..	48s. „
	Acidifiers, glycerine distillers, and press-room gangers	..	45s. „
	Candle room gangers	..	47s.6d. „
	Candle moulders ..	..	44s.6d. „
	Other adult workers..	..	42s. „
	Carters ..	45s. to 50s. per week	

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
Class III.—Processes relating to Stone, Clay, Glass, &c.			
Brick	Patternmakers ..	..	1s. 4½d. per hr.
	Bricklayers ..	..	1s. 3d. ,,
	Turners and fitters ..	..	1s. 3d. ,,
	Engine-drivers ..	11½d. to 1s. 0½d. per hr.	..
	Burners on kilns ..	..	1s. 1½d. per hr.
	Blacksmiths ..	..	1s. 0½d. ,,
	Carpenters	..	1s. 3d. ,,
	Facemen	1s. 1½d. to 1s. 1½d. pr hr.	..
	Drawers	..	1s. 3d. per hr.
	Machine drivers, riggers	..	1s. 1d. ,,
	Setters	..	1s. 2d. ,,
	Firemen	..	11½d. ,,
	Pan and crusher attendants	..	1s. 0½d. ,,
	Wet pan attendants	..	10½d. ,,
	Clayholemen ..	..	1s. 0½d. ,,
	Hand moulders ..	..	1s. ,,
	Wheelers	..	11d. ,,
	Truckers	..	11d. ,,
	Blacksmiths' strikers	..	10½d. ,,
	Loftmen, yardmen ..	..	10½d. ,,
	Lime grinders, crushers and mixers	..	1s. 1½d. ,,
	Sand elevator feeders and pitmen	..	1s. ,,
Glazed pipes	Burners, head ..	..	67s. 6d per wk.
	,, assistant ..	..	62s. 6d. ,,
	,, other ..	..	47s. ,,
	Flangers	..	60s. ,,
	Setters	..	52s. 6d. ,,
	Pressers	..	54s. ,,
	Junction stickers, men in charge of plunges, head drawers	..	48s. ,,
	Labourers	48s. to 50s. per week	..
General pottery	Burners, head ..	..	67s. 6d per wk.
	,, assistant ..	..	62s. 6d. ,,
	,, other ..	..	46s. ,,
	Pressers	45s. to 50s. per week	..
	Stoneware throwers ..	..	54s. per week
	Handlers and jiggerers	45s. to 46s. per week	..
	Turners	..	50s. per week
	Placers, dippers ..	44s. to 51s. per week	..
	Sagger makers ..	..	45s. per week
	Mould makers ..	..	60s. ,,
	,, ,, assistants	..	48s. ,,
	Packers and labourers	44s. to 48s. per week	..
	Terra-cotta pressers and plungers	48s. to 50s. ,,	..
	,, clayhole facemen	..	52s. per week
	,, breakers and fillers	..	48s. ,,
	,, flower pot throwers	48s. to 50s. per week	..
	Females employed in making general pottery	..	23s. per week
Tiles	Tile placers ..	48s. to 51s. per week	..
	Moulders, pressers, and others—male ..	..	42s. per week
	,, female ..	..	23s. ,,
Lime, cement, cement pipes ..	Labourers	8s. to 9s. per day	..
Asbestos	Machinists	40s. to 42s. per week	40s. per week
Glass bottle works	Furnacemen (two or more producers)	..	52s. 6d ,,

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
Class III.—continued.			
Glass bottle works—*continued.*	Furnacemen (one producer)	..	38s.6d. per wk.
	Foremen, sorters, lathe workers	..	42s. ,,
	Pipe menders, wind pipe repairers	39s. to 40s. per week	..
	Sorters, lehrmen, labourers	..	36s. per week
	Teasers, firemen's assistants, light labourers	30s. to 33s.9d. per wk.	..
Flint glass works	Castor place makers..	..	70s. per week
	,, blowers	..	57s. 6d. ,,
	Chimney and general work makers (1st class)	..	60s. ,,
	Chimney and general work blowers (1st class)	..	48s. ,,
	Chimney and general work makers (2nd class)	..	51s. ,,
	Chimney and general work blowers (2nd class)	..	42s. ,,
	Mould blowers (1st class)	..	57s.6d. ,,
	Mould blowers (2nd class)	..	50s. ,,
	Mould blowers (3rd class)	..	42s. ,,
	Pot makers ..	..	52s. ,,
	Firemen	..	42s. ,,
	Sand blasters and packers	..	40s. ,,
Glass bevelling, &c. ..	Embossers	48s. to 50s. per week	..
	Stained glass cutters	..	57s. per week
	Lead light glaziers and fixers of lead lights	48s. to 50s. per week	..
	Cementers	..	40s. per week
	Plate glass cutters ..	48s. to 50s. per week	..
	,, glaziers ..	48s. to 50s. ,,	..
	,, glazier's assistants and packers	..	45s. per week
	Bevellers and silverers	..	48s. ,,
Marble, stone-dressing ..	Carvers in marble and stone	..	82s. 6d. ,,
	Carvers' assistants ..	..	69s. 8d. ,,
	Letter cutters ..	64s. 2d. to 66s. per week	..
	Monumental carvers..	..	69s. 8d. per wk.
	Monumental stone,slate, and other cutters	58s. 8d. to 64s. 2d. per week.	..
	Kerbstone cutters ..	..	55s. per week
	Machinists, planing and turning	..	66s. ,,
	Machinists, polishing and sanding	48s. 9d. to 56s. per week	..
	Labourers	..	50s. per week
Stone filter	Filtermakers ..	..	48s. ,,
Modelling	Modellers	12s. to 14s. per day	..
	Shop hands ..	10s. to 11s. ,,	..
	Pressers and casters	48s. to 54s. per week	..
Asphalt	Asphalters and tarpavers	7s. 6d. to 9s. per day	8s. per day

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
Class IV.—Working in Wood.			
Cooperage	Coopers	..	62s. per week
Corkcutting	Corkcutters ..	40s. to 55s. per week	40s. ,,
Bellows	Bellows-makers ..	40s. to 45s. ,,	42s. 6d. ,,
Saw-milling, moulding, joinery, sash, door, box, &c.	Box makers and box nailing machine workers	..	52s. 6d. ,,
	Box printing machine workers	..	49s. 6d. ,,
	Carpenters and joiners	58s. to 66s. per week	..
	Mantelpiece makers ..	..	60s. per week
	Millwrights	..	64s. ,,
	Crane workers ..	..	55s. ,,
	Labourers, box stackers	42s. to 48s. per week	..
	Stackers, timber log-pond men and log-turners, joinery packers	48s. to 54s. ,,	..
	Stackers and sorters on wharf and public yards	..	1s. 3d. per hr.
	Stackers (foremen) ..	..	1s. 6d. ,,
	Wire nail machine workers	..	54s. per week
	Other machine workers	50s. to 66s. per week	..
	Polishers, coaters ..	..	55s. per week
	Painters and glaziers	..	54s. ,,
	Pullers out ..	42s. to 48s. per week	..
	Sawyers	48s. to 64s. ,,	..
	Saw doctors ..	..	72s. per week
	Saw sharpeners ..	..	60s. ,,
	Blacksmiths ..	..	57s. ,,
	Blacksmiths' strikers	..	45s. ,,
	Salesmen, tally and order men	..	54s. ,,
Wood-carving, turning ..	Carvers and turners ..	..	60s. ,,
Class V.—Metal Works, Machinery, &c.			
Agricultural implement ..	Pattern makers ..	..	66s. per week
	Blacksmiths, fitters, turners, wheelwrights and carpenters	..	60s. ,,
	Blacksmiths' strikers	..	48s. ,,
	Iron annealers ..	..	48s. ,,
	Drillers	..	48s. ,,
	Belt cutters ..	..	48s. ,,
	Machinists, iron ..	..	54s. ,,
	,, wood ..	48s. to 60s. per week	..
	Sheet iron workers ..	..	54s. per week
	Assemblers ..	..	48s. ,,
	Painters	51s. to 60s. per week	..
	Engine-drivers ..	51s. to 60s. ,,	..
	Labourers, yardmen ..	45s. to 48s. ,,	..
Engineering, boilermaking ..	Blacksmiths, hammer and coppersmiths	..	66s. per week
	Fitters, turners, and spring makers	..	66s. ,,
	Borers, slotters, planers, machine shapers (over 14 inch), universal millers	..	60s. ,,

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
***Class V.*—continued.**			
Engineering, &c.—*continued.*	**Rail** and plate edge planers, shapers (under 14 inch), plain millers, gear cutters, bolt and nut hands, lappers, grinders, and brass finishers	..	54s. per week
	Shearing, slotting, and nibbling machinists, heaters and cutters of bolts and nuts, stud, lathe, centering, screwing, and drilling machinists	..	48s. ,,
	Coppersmith's assistants and blacksmith's strikers	..	48s. ,,
	Labourers	..	46s. 6d ,,
	Boilermakers ..	..	66s. ,,
	,, assistants	50s. to 54s. per week	..
	Machine-made iron or steel pipe makers	..	60s. per week
	Labourers	..	48s. ,,
Iron and steel moulding ..	Bank pipe moulders ..	54s. to 66s. per week	..
	Vertical moulders ..	..	51s. per week
	Pipe dressers ..	..	48s. ,,
	Furnacemen and assistants	48s. to 51s. per week	..
	Labourers	..	45s. per week
	Coremakers, finishers, and casters	54s. to 66s. per week	..
	Iron moulders and coremakers	54s. to 66s. ,,	..
	Iron dressers ..	..	48s. per week
	Steel crucible furnacemen and assistants	51s. to 63s. per week	..
	Steel converters and assistants	51s. to 57s. ,,	..
	Steel dressers ..	..	49s. per week
	Steel annealers and labourers	..	46s. 6d. per week
Cutlery	Cutlers and sawmakers	60s. to 80s. per week	..
	Knifesmiths ..	50s. to 60s. ,,	..
	Saw and tool grinders and sharpeners	48s. to 60s. ,,	..
Nail, barbed wire	Nail makers ..	..	54s. per week
	Labourers	40s. to 45s. per week	..
	Barbed wire workers	48s. to 52s. 6d. ,,	..
Iron safe, door	Fireproof safe, &c., makers	55s. to 80s. ,,	60s. per week
Tinsmithing, galvanized iron, sheet iron, japanning	General tinsmiths, sheet iron and spouting workers, repairers	..	54s. ,,
	Stampers	..	50s. ,,
	Labourers' stackers ..	..	42s. ,,
	Canister makers and repairers	..	50s. ,,
	Soldering machinists	48s. to 50s. per week	..
	Other ,,	..	45s. per week
	Japanners and gilders—		
	Ornamental ..	..	52s. ,,
	Other	43s. to 48s. per week	..
Stove, range, oven ..	Stove and oven fitters	54s. to 57s. ,,	..
	Electroplaters ..	56s. to 66s. ,,	..
Pattern making	Pattern makers ..	..	72s. per week
Meter	Fitters	..	54s. ,,
Spring	Spring fitters and spiral spring makers	..	60s. ,,

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
***Class V.*—continued.**			
Spring—*continued.*	Smiths	..	60s. per week
	Elliptic heading and spring eye machinists	54s. to 56s. per week	..
	Other machinists ..	..	45s. per week
	Strikers, emery wheel finishers, and others	..	45s. ,,
Brass, copper smithing ..	Brass moulders, finishers	..	54s. ,,
	Brass polishers ..	..	48s. ,,
	Dressers	..	42s. ,,
	Furnacemen ..	..	45s. ,,
	Coremakers, male ..	..	51s. ,,
	,, female	..	30s. ,,
	Coppersmiths ..	..	66s. ,,
Lead, shot, pewter ..	Labourers in lead and shot factories	48s. to 50s. per week	..
Wire working	Wire workers ..	..	51s. per week
	Weavers	..	52s. ,,
	Weavers' strikers ..	..	42s. ,,
Wire mattrass	Machine operators ..	56s to 64s. per week	..
	All others	..	50s. per week
	Females	..	34s. ,,
Smelting, chlorination, cyanide, pyrites	Metallurgists and assayers	£3 5s. to £5 per week	..
	Cyaniders	48s. to 55s. ,,	..
	Chlorinators ..	48s. to 55s. ,,	..
	Smelters	40s. to 45s. ,,	..
	Roasters	40s. to 42s. ,,	..
	Furnacemen ..	51s. to 60s. ,,	..
	Labourers	..	48s. per week
Bedstead, fender	Blacksmiths ..	..	48s. ,,
	Fitters-up	..	51s. ,,
	Chill fitters ..	56s. to 64s. per week	..
	Frame setters ..	..	54s. per week
	Chippers	..	43s. ,,
	Mounters of bedstead pillars	43s. to 51s. per week	..
	Grinders and polishers	..	57s. per week
	Japanners	43s. to 51s. per week	..
	Fitters (fender) ..	..	51s. per week
	Electroplaters ..	..	66s. ,,
	,, assistants	..	56s. ,,
	Brass lacquer and plate work polishers	..	48s. ,,
	Packers and storemen	..	43s. ,,
	Japanners and polishers—female	..	39s. 6d. ,,
	Wrappers—female ..	..	19s. 6d. ,,
Class VI.*—*Connected with Food and Drink, or the preparation thereof.			
Order 1.*—*Animal Food.			
Bacon-curing	Foremen curers ..	..	60s. per week
	Assistant ,, ..	46s. to 50s. per week	..
	Foremen, cutting ..	..	60s. per week
	Assistants ,, ..	..	52s. 6d. ,,
	Foremen, slaughtering	..	60s. ,,
	Assistants ,,	..	52s. 6d. ,,
	Foremen, small goods	..	60s. ,,
	Assistants ,,	..	50s. ,,
	Foremen, smoking, rolling, &c.	..	55s. ,,
	Assistants, smoking, rolling, &c.	45s. to 52s. 6d. per week	..

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	Genera l Rate.
***Class VI.—Order* 1—continued.**			
Bacon-curing—*continued.*	Foreman, lard and tallow	..	55s. per week
	Assistants, lard and tallow	..	45s. ,,
Butter, cheese, concentrated milk	General workers ..	45s. to 52s. 6d. per week	..
	Factory managers ..	65s. to 90s. ,,	70s. per week
	Butter makers, and churners	50s. to 55s. ,,	..
	Labourers, packers ..	40s. to 42s. 6d. ,,	..
Butterine, margarine ..	Labourers	40s. to 42s. ,,	..
Meat preserving, freezing ..	Slaughtermen ..	..	27s. 6d. per 100 sheep
	Digestor hands, tallow-men, and boners	..	45s. per week
	Preservers' assistants	..	48s. ,,
	Tinsmiths (canister makers)	..	50s. ,,
	Labourers, packers ..	..	48s. ,,
	Chambermen ..	..	60s. ,,
Order* 2.—*Vegetable Food, including products not foods but usually associated with the manufacture of foods.			
Biscuit	Factory foremen ..	55s. to 80s. per week	..
	Forewomen ..	30s. to 40s. ,,	..
	Cake makers ..	50s. to 62s. 6d. ,,	..
	Biscuit bakers, mixers	43s. to 54s. ,,	..
	Machine hands ..	35s. to 42s. ,,	..
	Packers—male ..	37s. 6d. to 39s. ,,	..
	female ..	16s. to 20s. ,,	..
Confectionery	Confectioners ..	..	54s. per week
	Head storemen ..	..	50s. ,,
	Storemen and labourers	..	42s. ,,
	Chocolate dippers—female	..	22s. ,,
	General workers—male	..	36s. ,,
	female	..	20s. ,,
Flour mill	Millers and millwrights ..	..	55s. ,,
	Packermen ..	42s. to 48s. per week	..
	Other adult mill employés	..	42s. per week
	Engine-drivers ..	..	48s. ,,
	Head storemen ..	..	48s. ,,
	Other adult store hands	..	45s. ,,
Jam, fruit-preserving, pickle, sauce, vinegar	Foremen	50s. to 80s. per week	..
	Adult males ..	..	45s. per week
	Females over 18 years	19s. to 21s per week	..
Starch	Foremen	..	55s. per week
	Millers, stonedressers	47s. 6d. to 50s. per wk.	..
	Leading hands ..	..	46s. per week
	Adult hands—males	..	42s. ,,
	females	..	22s. 6d. ,,
Grocers' sundries, including **oatmeal, cornflour, macaroni**	Millers	..	52s. 6d. ,,
	Mixers, blenders, stone dressers, and storemen	..	50s. ,,
	Packers	..	45s. ,,
	Others	..	42s. ,,
	Female adults ..	..	22s. 6d. ,,
Sugar, treacle refining ..	Vacuum hands and others	47s. to 95s. per week	..

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
Class VI.—continued.			
Order 3.—Drinks and Stimulants.			
Aerated waters, cordials ..	Cordial makers ..	55s. to 80s. per week	60s. per week
	Bottlers by hand or rack other than automatic	..	45s. ,,
	Bottlers by automatic rack	..	42s. 6d. ,,
	All others	..	39s. ,,
Malt	Persons engaged in turning floors, screening malt and barley, &c.	..	54s. ,,
Brewing	Top and cellarmen, cask washers, storemen, &c.	..	51s. ,,
	Rackers, corkers ..	..	51s. ,,
	Packers, loaders ..	..	45s. ,,
	Syphoners	32s. to 37s. per week	..
	Headers-up	..	32s. per week
	Wirers and clippers ..	27s. 6d to 32s. 6d. per wk	..
Distilling	Stillmen	..	65s. per week
	Brewhouse millhouse hands (skilled)	..	54s. ,,
	Coopers	..	62s. ,,
	General labourers and bottling hands	45s. to 50s. per week	..
Condiments, coffee, chicory, chocolate, spice, &c.	Roasters	..	52s. 6d. per wk.
	Mixers, blenders, and storemen	..	50s. ,,
	Packers	..	45s. ,,
	Others	..	42s. ,,
	Female adults ..	..	22s. 6d. ,,
Ice, refrigerating	Foremen	..	72s. ,,
	Chambermen ..	..	60s. ,,
	Rabbit graders ..	..	60s. ,,
	Ice pullers and stackers	..	48s. ,,
	General hands and rabbit packers	..	48s. ,,
Order 4.—Narcotics.			
Tobacco, cigar, cigarette ..	Flake coverers ..	70s. to 80s. per week	77s. per week
	,, ,, (female)	40s. to 47s. ,,	44s. ,,
	Gangers in press room	..	65s. ,,
	General hands in press-rooms &c. (unskilled)	50s. to 60s. per week	..
	Cigar makers (piece-work) males	55s. to 75s. per week	..
	Cigar makers (piece-work) females	25s. to 35s. ,,	..
	Cigarette makers (hand)—female	25s. to 35s. ,,	..
	Persons re-tying box or sorting cigars	..	54s. per week
	Persons stripping and booking cigar leaf	..	50s. ,,
	Persons stripping bunch wrapper leaf	..	45s. ,,
	Persons stripping bunch wrapper leaf by machine	..	25s. ,,
	Persons ringing cigars in reverse order	..	24s. ,,

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
Class VII.—Clothing and Textile Fabrics and Fibrous Materials.			
Order 1.—Textile.			
Woollen, cloth, blanket, rug..	Foremen	55s. to 60s. per week	..
	Man in charge, milling and scouring	..	50s. per week
	Pattern weavers ..	36s. to 54s. per week	..
	Tuners	38s. 6d. to 52s. ,,	..
	Power-loom weavers..	13s. 9d. to 30s. ,,	..
	Spinners	36s. to 42s. ,,	..
	Labourers	33s. 6d. to 42s. ,,	..
	Wool scourers ..	..	42s. per week
	Fettlers	..	42s. ,,
	Dye house labourers..	..	42s. ,,
	Wool dryers, warpers	..	42s. ,,
	Willey house labourers	..	42s. ,,
	Warpers—female ..	18s. 6d. to 28s. per wk.	..
Order 2.—Dress.			
Clothing, tailoring	Order—		
	Cutters—male and female	..	60s. per week
	Tailors	..	55s. ,,
	Pressers—male and female	..	50s. ,,
	Trimmers ..	..	47s.6d. ,,
	Other females ..	..	22s.6d. ,,
	Ready made—		
	Cutters, stock—male and female	..	55s. per week
	Machinists, examiners —male	..	45s. ,,
	Folders	..	40s. ,,
	Seam pressers—male and female	..	30s. ,,
	Brushers	..	25s. ,,
	Tailoresses, machinists, buttonhole makers	..	21s. ,,
Corset	Corset makers—female	20s. to 35s. per week	27s. 6d. ,,
Dressmaking, millinery ..	Male cutters ..	..	52s. 6d. ,,
	Female ,, ..	..	30s. ,,
	Male and female pressers	..	50s. ,,
	Female pressers under 12lb. irons	..	25s. ,,
	Dressmakers in charge	50s. to 120s. per week	..
	Dressmakers' assistants —female	..	21s. 6d. per wk.
	Mantlemakers (in charge)—female	50s. to 80s. per week	..
	Mantlemakers' assistants—female	..	21s. 6d. per wk.
	Milliners in charge ..	50s. to 80s. per week	..
	Milliners' assistants—female	..	22s. 6d. per wk.
Shirtmaking, underclothing ..	Shirt, collar, pyjama makers—male cutters	60s. to 65s. per week	..
	Female cutters ..	35s. to 50s. ,,	..
	Male workers ..	42s. to 55s. ,,	..
	Female ,, ..	..	22s. 6d. per wk.
	Underclothing makers —female	..	20s. ,,

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
***Class VII.—Order 2*—continued.**			
Hat, cap	Body makers, and finishers—silk hats	50s. to 60s. per week	55s. per week
	Shapers, silk hats ..	60s. to 70s. ,,	65s. ,,
	Crown sewers, silk hats —female	20s. to 30s. ,,	25s. ,,
	Trimmers, silk hats—female	22s. 6d. to 30s. ,,	25s. ,,
	Bodymakers, felt hats	70s. to 90s. ,,	77s. 6d. ,,
	Blockers ,,	65s. to 70s. ,,	..
	Finishers ,,	70s. to 100s. ,,	75s. per week
	Shapers ,,	..	65s. ,,
	Binders and trimmers, felt hats—female	20s. to 25s. per week	..
	Machinists, straw hats —female	22s. 6d. to 30s. ,,	25s. per week
	Trimmers straw hats—female	20s. to 25s. ,,	22s. 6d. ,,
	Blockers, pressers—women's hats	50s. to 55s. ,,	..
	Machinists, caps—female	20s. to 25s. ,,	..
Hosiery (piecework) ..	Machinists, knitting—female	22s. 6d. to 35s. ,,	..
	Machinists, sewing—female	20s. to 35s. ,,	..
	Linkers—female ..	25s. to 35s. ,,	..
	Pressers—male ..	..	50s. per week
	,, female ..	25s. to 30s. per week	..
	Winders—female ..	20s. to 30s. ,,	..
	Menders, &c.—female	20s. to 30s. ,,	..
Oilskin, waterproof clothing	Male cutters ..	..	50s. per week
	Male garment makers	..	45s. ,,
	Female garment makers and machinists	..	22s. 6d. ,,
	Needle hands, female	..	17s. 6d. ,,
Boot, shoe	Makers, finishers, clickers, stuff-cutters, male and female	..	54s. ,,
	Other females with four years' experience	..	22s. 6d. ,,
Furrier	Cutters	60s. to 70s. per week	..
	Machinists—female ..	22s. 6d. to 25s. ,,	..
	Sewers—female ..	20s. to 22s. 6d. ,,	..
Umbrella, parasol	Frame makers ..	42s. 6d. to 55s. ,,	..
	Cutters	40s. to 60s. ,,	..
	Finishers—male ..	30s. to 50s. ,,	..
	Machinists—female ..	22s. 6d. to 30s. ,,	..
	Tippers ,, ..	20s. to 25s. ,,	..
Dye works	Dyers	60s. to 80s. ,,	70s. per week
	Dyers' assistants and cleaners	40s. to 50s. ,,	45s. ,,
	Pressers—male ..	..	50s. ,,
	female ..	..	30s. ,,
Ostrich feather	Feather dyers ..	60s. to 80s. per week	70s. ,,
	,, ,, assistants	35s. to 40s. ,,	37s. 6d. ,,
	Feather curlers, dressers, finishers—female	15s. to 30s. ,,	20s. ,,

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
Class VII.—continued.			
Order 3.—Fibrous Materials and Textiles not elsewhere included.			
Bag, sack (including calico bag)	Bagmenders ..	20s. to 35s. per week	30s. per week
	Calico bag-makers—female	15s. to 20s. ,,	17s. 6d. ,,
Rope, twine, &c.	Males—		
	Foremen	55s. to 60s. ,,	..
	Rope makers ..	50s. to 60s. ,,	..
	Rope splicers ..	..	60s. per week
	Other adults ..	42s. to 48s. per week	..
	Females—		
	Doffing leaders ..	..	25s. per week
	Head piecers ..	..	23s. 6d. ,,
	Other adults ..	..	22s. 6d. ,,
Tarpaulin, tent, sail ..	Tarpaulin and tent makers	40s. to 50s. per week	48s. ,,
	Sailmakers	..	60s. ,,
	Tarpaulin, tent, sail makers—female	22s. 6d. to 25s. per week	..
Class VIII.—Books, Paper, Printing, Engraving, &c.			
Printing (including lithographic printing, electrotyping, stereotyping)	Printers—Compositors	..	60s. per week
	,, machinists	56s. to 60s. per week	..
	Proof readers ..	..	64s. per week
	Printers—Linotype and monoline operators	70s. to 84s. per week	..
	Printers—monotype perforating machine operators	70s. to 84s. ,,	..
	Persons employed on monotype casting machines	45s. 6d. to 56s. 10d. ,,	..
	Feeders and others—male	..	42s. per week
	Feeders and others—female	..	22s. ,,
	Lithographers ..	60s. to 67s. 6d. per week	..
	Stone polishers and others	42s. to 45s. ,,	..
	Stereotypers ..	..	60s. per week
Bookbinding, account-book making, stationery, &c.	Bookbinders, paper rulers, guillotine machine cutters	..	58s. ,,
	Feeders and others—male	..	36s. ,,
	Forewomen ..	25s. to 35s. per week	..
	Pagers, folders, staplers, &c.—female	..	21s. per week
	Sewers, &c., female ..	..	23s. ,,
Ink, printing ink	Printing ink makers	..	55s. ,,
	Writing ink ,, ..	25s. to 30s. per week	..
Paper	Paper, &c., makers ..	..	60s. per week
	Beatermen	54s. to 60s. per week	..
	Breakermen ..	45s. to 48s. ,,	..
	General hands ..	42s. to 48s. ,,	..
Paper bag, box, &c. ..	Machine box cutters—male and female	..	56s. per week
	Other workers—male	..	45s. ,,
	Box-makers—female	22s. to 25s. per week	..
	Cardboard carton cutters	..	52s. per week

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
***Class VIII.*—continued.**			
Paper bag, box, &c.—*continued.*	All other carton workers—male	..	45s. per week
	Carton workers—adult female	..	18s. ,,
	Paper bag machinists	55s. to 56s. per week	..
	,, ,, guillotine cutters	..	50s. per week
	,, ,, makers—female	..	20s. ,,
Die sinking, engraving, &c. ..	Copper plate engravers	..	80s. ,,
	Die sinkers ..	..	65s. ..
	Engravers, general ..	55s. to 70s. per week	..
	Process engravers ..	55s. to 90s. ,,	..
	Photo lithographers ..	..	70s. per week
Class IX.*—*Musical Instruments.			
Organ	Organ builders ..	..	58s. per week
Pianoforte	Tuners	..	80s. ,,
	Action fitters ..	..	70s. ,,
	Wood machinists ..	..	66s. ,,
	Cabinet makers, polishers, turners, veneerers and others	..	60s. ,,
	Stringers	..	52s. ,,
Class X.—Arms and Explosives.			
Ammunition	Cartridge operators—female	23s. to 42s. per week	28s. per week
	Mechanics (fitters, &c.)	72s. to 93s 6d. ,,	..
	Labourers	51s. to 63s. ,,	..
Explosive	Nitro-glycerine workers	48s. to 55s. ,,	..
	Acid Workers ..	48s to 51s ,,	..
	Labourers	..	48s. per week
Fireworks, fuse	Fireworks makers—male	40s. to 45s. per week	..
	Fireworks makers—female	17s 6d to 20s. ,,	..
Class XI.—Vehicles, Fittings, Saddlery, Harness, &c.			
Coach, waggon, tramcar, spoke and felloe	Bodymakers, smiths, painters trimmers	..	60s. per week
	Vycemen, strikers, labourers	42s. to 45s. per week	..
	Wheelwrights, wheelers' machinists, axle makers, blacksmiths	..	60s. per week
	Face plate workers and screw-cutting turners	..	54s. per week
	Centre turners, strikers, steam hammer drivers, and labourers	..	45s. ,,
	Trimmers and machinists—female	..	25s. ,,
Carriage lamp	Lamp makers ..	..	54s. ,,
Cycle	Foremen	60s. to 62s. 6d. per week	..
	Assemblers ..	..	45s. per week
	Filers	..	45s. ,,
	Frame builders ..	..	50s. ,,

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
***Class XI.*—continued.**			
Cycle—*continued.*	General repairers ..	..	48s. per week
	Screw cutters and turning lathe men	..	57s. 6d. ,,
	Wheel builders ..	..	45s. ,,
	Foremen rim makers	..	55s. ,,
	Braziers	..	50s. ,,
Perambulator	Other workers ..	..	45s. ,,
	Wickerworkers ..	..	55s. ,,
	Upholsterers ..	..	48s. ,,
	Fitters up	30s. to 40s. per week	..
Saddlery, harness	Saddle collar and harness makers	..	54s. per week
	Machinists—female ..	..	24s. ,,
Saddle-tree, saddlers' ironmongery, &c.	Saddle-tree makers ..	50s. to 60s. per week	55s. ,,
Whip (piece work)	Thong makers ..	44s. to 54s. ,,	..
Class XII.—Ship Building, Fitting, &c.			
Dock, slip	Shipwrights ..	..	12s. 8d. per day
	Labourers	..	9s. 4d. ,,
	Stevedores' men and lumpers	..	1s. 6d. per hr.
	Wharf labourers ..	..	1s. 5d. ,,
Boat building	Boat builders (skilled)	48s. to 60s. per week	..
Class XIII.—Furniture, Bedding, &c.			
Bedding, flock, upholstery ..	Bedding and mattress makers	..	50s. per week
	All females over four years' experience	..	25s. ,,
	Upholsterers ..	..	60s. ,,
Carpet	Carpet planners ..	..	65s. ,,
	Carpet and linoleum layers	..	60s. ,,
	Makers and repairers—female	..	27s. 6d. ,,
Curled hair	Curled hair, horsehair workers	40s. to 42s. per week	..
Furniture, cabinet making, chair, billiard table	Cabinet, chair, and couch makers	..	60s. per week
	Carvers, turners, polishers	..	60s. ,,
	Billiard table and cushion makers	..	60s. ,,
	Machinists	62s. to 66s. per week	..
	Females (four years' experience)	..	27s. 6d. per wk
Picture frame	Joiners, gilders ..	..	50s. ,,
	Machinists	48s. to 66s. per week	..
	Mount cutters ..	..	50s. per week
	Compo workers and stainers	..	45s. ,,
	Mounters	..	48s. ,,
	Packers and others ..	..	42s. ,,
	Adult females ..	..	22s. 6d. ,,
Venetian blind, window blind	Venetian blind makers	45s. to 50s. per week	..

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupations.	Wages.	
		Range.	General Rate.
Class XIV.—Drugs, Chemicals, and By-products.			
Blacking, black lead, blue, polishes, &c.	Grinders and mixers	..	48s. per week
	Others	40s. to 42s. per week	..
	Adult females ..	..	25s. per week
Chemical, drug, horse and cattle medicine	Makers of pharmaceutical preparations	60s. to 80s. per week	60s. ,,
	Others (unskilled) working in drugs, &c.; disinfectant makers	35s. to 50s. ,,	40s. ,,
	Packers—female ..	20s. to 27s. 6d. ,,	..
Fertilizer	Acid tank cleaners, and pit emptiers in superphosphate works	..	54s. per week
	Men attending roasters and acid chambers	..	51s. ,,
	Men feeding elevators, weighing and bagging machine attendants	..	49s. ,,
	Labourers	..	48s. ,,
Paint, varnish, white-lead ..	Paint and varnish makers	55s. to 70s. per week	55s. ,,
	Paint and varnish makers' assistants	..	45s. ,,
Class XV.—Surgical and Scientific Appliances.			
Optical, philosophical instrument, &c.	Opticians, &c. ..	45s. to 65s. per week	..
Surgical appliance, instrument	Surgical instrument makers	50s. to 70s. ,,	..
	Female makers belts and bandages	35s. to 40s. ,,	..
Class XVI.—Timepiece, Jewellery, Plateware.			
Electroplating	Persons mixing and working solutions and electric current	..	60s. per week
	Whetstone grinders ..	..	55s. ,,
	Liners and hand decorators	..	54s. ,,
	Grinders and polishers	..	51s. ,,
	Finishing coaters and rim centerers	..	49s. ,,
	Lacquerers and burnishers	..	46s. ,,
	Persons dipping, first coaters, and frame cleaners	40s. to 43s. per week	..
Goldsmithing, jewellery, goldbeating	Engravers and chasers	..	60s. per week
	Chainmakers, mounters, ringmakers, silversmiths	..	55s. ,,
	Setters	..	60s. ,,
	Other adult workers ..	..	50s. ,,
	Female chain makers	..	35s. ,,
	Female scratch brushers, polishers, and gilders	..	45s. ,,
Watchmaking, &c. ..	Clock and watchmakers (repairers)	..	70s. ,,
Class XVII.—Heat, Light, and Energy.			
Electric apparatus	Engine fitters and turners	..	66s. per week
	Winders, switchboard fitters	..	60s. ,,

WAGES IN MELBOURNE, 1912—*continued.*

Industries.	Occupation.	Wages.	
		Range.	General Rate.
Class XVII.—continued.			
Electric light	Cable jointers ..	..	69s. per week
	Fitters	..	66s. ,,
	Wiremen, linesmen, patrolling repairers	..	63s. ,,
	Installation and circuit repairers and others	..	54s. ,,
Gas and coke	Stokers	..	10s. 3d. per day
	Purifiers	..	8s. ,,
	Sulphate workers ..	..	9s. 6d. ,,
	Stove repairers and fitters	54s. to 57s. per week	..
	Service and main layers	66s. to 71s. 6d. ,,	..
	Gas inspectors ..	66s. to 71s. 6d. ,,	..
	Labourers	8s. to 8s. 3d. per day	..
Match	Match and vesta makers —female (piecework)	20s. to 35s. per week	..
	Box makers — female (piecework)	12s. to 35s. ,,	..
	Storemen, packers ..	42s. to 50s. ,,	..
Ironfounders' dust, charcoal dust	Foremen	..	52s. 6d. per wk.
	Mill hands and others	42s. to 48s. per week	..
Hydraulic power	Firemen	..	9s. per day
	Fitters	..	11s. ,,
	Main layers ..	..	10s. ,,
	Special labourers ..	..	8s. 4d. ,,
	Ordinary labourers ..	..	8s. ,,
Class XVIII. — Leatherware (excluding Saddlery and Harness.)			
Leather belting	Foremen	..	60s. per week
	Belt makers ..	48s. to 52s. 6d. per wk.	..
	Machinists	45s. to 50s. ,,	..
Portmanteau, gladstone bag ..	Foremen	..	60s. per week
	Male workers ..	..	55s. ,,
	Female workers ..	20s. to 25s. per week	..
Class XIX.—Wares not elsewhere included.			
Basket, wickerware ..	Bamboo or wicker workers	..	55s. per week
	Basket workers ..	..	54s. ,,
	Upholsterers ..	..	48s. ,,
Broom, brushware	Millet broom sorters ..	42s. 6d. to 52s. 6d. per week	..
	Storemen and labourers	..	45s. per week
	Paint brush makers ..	..	67s. 6d. ,,
	Brush machinists ..	60s. to 64s. per week	..
	Brush finishers ..	..	60s. per week
	Bottle, flue, wire, and bass brush makers	..	52s. 6d. ,,
	Draw-bench and treadle knot machine workers	..	21s. ,,
Rubber goods (including cycle Tyres	Calendar hands ..	..	60s. ,,
	Mill hands	..	53s. ,,
	Compound scale hands and dough mixers	..	50s. ,,
	Spreaders, hose, belting &c., hands	..	50s. ,,
	Tyre makers, repairers, wrappers	45s. to 50s. per week	..
	Press hands ..	..	48s. per week
	Heaters, textile cutters, lathe, surgical and tube makers	..	48s. ,,
	Tyre and forcing machine hands	..	46s. ,,
	General workers ..	..	45s. ,,
	Cleaners ..	..	35s. ,,
	Female workers ..	..	25s. ,,

WAGES IN MELBOURNE, 1912—*continued.*

B.—WAGES FOR SERVANTS AND ADULT WORKERS IN UNCLASSIFIED CALLINGS, TRADES AND INDUSTRIES.

Industry or Service.	Occupations.	Wages.	
		Range.	General Rate.
Educational*	Governesses ..	£30 to £40 per annum	..
	,, advanced	£45 to £90 ,,	..
	Teachers in private schools—		
	Males (elementary)	£80 to £120 ,,	..
	,, (advanced) ..	£150 to £300 ,,	..
	Females (elementary)	£30 to £50 ,,	..
	,, (advanced) ..	£50 to £150 ,,	..
Clerical	Bookkeepers ..	40s. to 70s. per week	..
	Shorthand clerks and typists—male	40s. to 60s. ,,	..
	Shorthand clerks and typists—female	25s. to 45s. ,,	..
Domestic servants*—males ..	Coachmen, footmen, grooms, gardeners	20s. to 30s. ,,	..
	Butlers	25s. to 40s. ,,	..
females	Cooks	20s. to 30s. ,,	..
	Laundresses ..	17s. to 30s. ,,	..
	Housemaids ..	15s. to 20s. ,,	..
	Nursemaids ..	12s. to 17s. 6d. ,,	..
	General servants ..	15s. to 20s. ,,	..
	Girls	10s. to 12s. ,,	..
Hotel servants—males ..	Barmen	..	50s. per week
	Cellarmen	..	55s. ,,
	Billiard markers ..	..	42s.6d. ,,
	Night porters ..	37s. 6d. to 42s. 6d. pr wk.	..
	Day porters ..	37s. 6d. to 40s. ,,	..
	Waiters	42s. to 52s. 6d. ,,	..
	General handymen ..	..	35s. per week
	Cooks	42s. 6d. to 75s. per wk.	..
females ..	Housekeepers ..	..	47s. 6d. per wk.
	Barmaids	..	37s. 6d. ,,
	Laundresses ..	..	35s. ,,
	Housemaids ..	..	30s. ,,
	Waitresses	26s. to 32s. 6d. pr. wk.	..
	Cooks	26s. to 45s. ,,	..
Night watchmen	Wharf, working and outside patrol (other than foot)	..	57s. per week
	Outside patrol (foot) ..	..	54s. ,,
	Others	..	48s. ,,
Lift attendants	.. .. ..	37s. 6d. to 42s. per week	..
Building	Bricklayers ..	..	66s. per week
	Bricklayers' labourers	..	57s. ,,
	Tuckpointers ..	..	64s. 2d. ,,
	Carpenters (foremen)	..	69s. 8d. ,,
	,, other ..	..	64s. 2d. ,,
	,, labourers ..	..	52s. 3d. ,,
	Painters, paperhangers, signwriters, grainers	..	55s. ,,
	Plasterers	64s. 2d. to 67s. 10d. pr wk	..
	Plumbers (foremen) ..	..	71s. 6d. per wk.
	,, and gasfitters	57s. 9d. to 66s. per week	..
	Slaters and tilers ..	..	66s. per week
Baking	Foremen or single hands	..	65s. ,,
	Vienna and rye bread bakers	..	62s. ,,
	Adult workers and machine dough makers	..	60s. ,,

* With board and lodging.

WAGES IN MELBOURNE, 1912—*continued.*

Industry or Service.	Occupations.	Wages.	
		Range.	General Rate.
Baking—*continued.*	Jobbers	..	1s. 6d. per hr.
	Carters	..	45s. per week
	Pastrycooks ..	50s. to 62s. 6d. per week	..
	General workers—male	..	34s. 8d. per wk.
	,, ,, female	..	20s. ,,
Butchering	Slaughtermen ..	..	70s. ,,
	Slaughter house labourers	..	42s. ,,
	Shopmen and smallgoodsmen	..	60s. ,,
	Assistant smallgoodsmen, salters, scalders, and general butchers	..	50s. ,,
	Delivery cart drivers	..	42s. 6d. ,,
Carters	Drivers of one horse vehicles	..	45s ,,
	Drivers of two horse vehicles	..	50s. ,,
	Drivers of three horse vehicles	..	54s. ,,
	Drivers of jinkers and boiler trucks	50s. to 60s. per week	..
	Drivers of motor vehicles	..	50s. per week
Coal and wood yards ..	Yardmen in charge	..	42s. ,,
	Other yardmen ..	..	40s. ,,
	Carters	40s. to 45s. per week	..
Coal and coke yards ..	Yardmen	50s. to 60s. ,,	..
	Carters	45s. to 50s. ,,	..
Factory engine-drivers ..	Building cranes ..	..	69s. per week
	Steam, traction, winch, and hoist	..	63s. ,,
	Steam, 1st class engines	..	60s. ,,
	,, 2nd ,,	..	51s. ,,
	,, 3rd ,,	..	45s. ,,
	Other engines ..	..	54s. ,,
	Firemen (2 boilers) ..	..	54s. ,,
	,, single ,, ..	..	48s. ,,
	Trimmers and greasers	..	45s. ,,
Marine stores	Foremen	..	50s. ,,
	Bottle washers and general hands	42s. to 45s. per week	..
	Casuals	..	1s. per hour
Drapery	Senior assistants—male	..	58s. per week
	Junior assistants—male	42s. 6d. to 48s. per week	..
	Pattern cutters, cashiers &c.	42s. 6d. to 58s. ,,	..
	Packers and others ..	..	45s. per week
	Assistants (females) ..	25s. to 30s. per week	..
Men's clothing (retail shops) ..	Managers	60s. to 70s. ,,	..
	Assistants	42s. 6d. to 60s. ,,	..
	Other adult employés	..	45s. per week
Boot dealers	Department managers (male and female)	..	90s. ,,
	Branch managers ,,	..	63s. ,,
	Senior assistants, males	45s. to 50s. per week	..
	Cashiers, &c.	..	37s. 6d. per wk.
	Packers, porters, and others	35s. to 50s. per week	..
	Assistants and cashiers, female	22s. 6d. to 27s. 6d. ,,	..
Farriery	Foremen	..	57s. 6d. per wk.
	Journeymen ..	..	50s. ,,
Furniture dealers	Assistants, collectors, doormen	42s. 6d. to 60s. per week	..
	Storemen	..	54s. per week
	Packers and porters ..	..	45s. ,,
Gardeners	Nursery hands ..	..	48s. ,,
	Labourers	42s. to 45s. per week	..

WAGES IN MELBOURNE, 1912—*continued.*

Industry or Service.	Occupations.	Wages.	
		Range.	General Rate.
Grocery	Managers	..	60s. per week
	Assistants	..	50s. ,,
	Storemen, packers ..	..	45s. ,,
	Carters	45s. to 50s. per week	..
Tea packing	Foremen in charge ..	..	52s. 6d. per wk.
	Head packers, males ..	..	45s. ,,
	Adult workers ,, ..	36s. to 40s. per week	..
	Head packers, females	..	27s. 6d. per wk.
	Adult workers ,, ..	17s. 6d. to 22s. per week	..
Hardware	Department managers	80s. to 90s. per week	..
	Branch ,,	..	80s. per week
	Outside salesmen ..	..	70s. ,,
	Senior assistants ..	45s. to 60s. per week	..
	Junior ,, ..	40s. to 55s. ,,	..
	Packers, storemen, &c.	32s. 6d. to 47s. 6d. ,,	..
Hairdressing	Employés—male, full hands	..	55s. per week
	Employés—male, other	45s. to 50s. per week	..
	,, female ..	40s. to 46s. ,,	..
Livery stables	Adults	..	42s. per week
	Casual hands ..	..	1s. per hour
Laundry	Laundresses ..	21s. to 30s. per week	24s. per week
Undertakers	Persons conducting funerals and coffin-making	..	56s. ,,
	Drivers, grooms, and general workers	..	50s. ,,
Photography	Operators	60s. to 140s. per week	..
	Printers	40s. to 70s. ,,	..
	Retouchers—female ..	15s. to 40s. ,,	..
	Finishers—female ..	10s. to 20s. ,,	..
	Makers of photographic materials	40s. to 75s. ,,	..
	Finishers, packers—female	22s. 6d. to 27s. 6d. ,,	..
Quarry	Hammermen ..	51s. to 63s. per week	..
	Pitcher and cube dressers	..	63s. per week
	Facemen	..	57s. ,,
	Spallers	48s. to 57s. per week	..
	Machine borers ..	..	57s. per week
	Pluggers and machine feeders	..	51s. ,,
	Loaders, truckers, strippers and labourers	..	48s. ,,

Average wages under Wages Boards, &c.

The average weekly wages paid to males and females employed in all industries working under Wages Boards' determinations, and in those for which Wages Boards have not been appointed, have been compiled from particulars contained in the report of the Chief

Inspector of Factories, and are given in the following statement. The information relates to the year 1912 :—

EMPLOYÉS UNDER WAGES BOARDS AND AVERAGE WAGES.

—	Males.		Females.	
	No.	Average Weekly Wage.	No.	Average Weekly Wage.
		£ s. d.		£ s. d.
Apprentices and improvers ...	12,825	1 1 1	11,863	0 11 11
General workers (mostly young persons)	2,878	1 0 0	1,568	0 14 1
Persons employed at minimum wage or over	45,914	2 15 1	16,970	1 7 11
Piece workers	2,354	3 2 1	3,846	1 4 2
Total	63,971	2 7 0	34,247	1 1 4

EMPLOYÉS OUTSIDE OF WAGES BOARDS, AND AVERAGE WAGES.

—	No.	Average Weekly Wage.
		£ s. d.
Males	6,301	2 6 4
Females	5,811	1 1 5
Total	12,112	1 14 5

Tanneries, &c.

There were in operation at the close of 1912, 90 tanning, fellmongering and wool washing establishments. The average number of persons employed was 1,996, and the wages paid during the year to the employés (excluding working proprietors) amounted to £205,050. The following table shows the approximate value of

the machinery, plant, land, buildings, and improvements in each of the last ten years:—

VALUE OF TANNERIES, ETC.: 1903 TO 1912.

Year.	Approximate Value of—		
	Machinery and Plant in Use.	Land.	Buildings and Improvements.
	£	£	£
1903	110,796	48,341	112,407
1904	109,095	41,979	104,005
1905	114,863	46,301	112,714
1906	114,951	47,139	110,155
1907	124,064	51,194	123,124
1908	133,376	53,713	129,664
1909	142,429	54,208	125,700
1910	141,702	55,858	136,991
1911	165,964	53,917	181,172
1912	176,947	55,896	187,597

The quantity of bark used in connexion with tanning operations in 1912 was 11,363 tons. The output of tanneries for each of the last ten years was as follows:—

OUTPUT OF TANNERIES, ETC.: 1903 TO 1912.

Year.	Number Tanned of—			Sheep Skins Stripped.	Wool Washed (weight after washing).
	Hides.	Calf Skins.	Sheep and other Skins.		
				No.	lbs.
1903 ...	397,367	179,425	629,465	925,263	6,197,723
1904 ...	381,473	134,003	674,105	651,672	5,285,409
1905 ...	393,695	139,506	544,145	562,705	4,543,927
1906 ...	485,620	132,210	518,139	612,598	5,676,464
1907 ...	492,572	188,007	548,765	851,516	7,230,675
1908 ...	498,947	127,798	1,027,460	1,253,875	7,803,992
1909 ...	495,964	175,563	1,020,656	1,090,967	8,089,643
1910 ...	496,200	186,993	1,007,343	1,241,693	8,242,456
1911 ...	523,989	199,257	817,866	1,301,298	9,356,529
1912 ...	536,343	194,441	891,971	1,085,196	8,182,610

The figures for 1909, 1910, 1911, and 1912 do not include skins and wool dealt with in small tanneries. The work done in such tanneries in 1908 was the tanning of 1,540 hides, 1,620 calf skins, and 4,916 sheep and other skins. The value of the leather imported into Victoria from oversea countries during 1912 was £252,258.

Soap and candle works.

There were seventeen soap and candle works in operation in 1912. These factories employed 598 persons, of whom five were working proprietors. The amount of the wages paid to the employés in that year was £61,398. The value of the machinery, plant, land, buildings, and improvements, and the quantity of soap and candles produced in each of the last ten years were as follows:—

SOAP AND CANDLE WORKS—VALUE AND PRODUCTS: 1903 TO 1912.

Year.	Approximate Value of—			Products.	
	Machinery and Plant in Use.	Land.	Buildings and Improvements.	Soap.*	Candles.
	£	£	£	cwt.	cwt.
1903 ...	103,411	42,288	64,354	138,045	45,052
1904 ...	101,486	38,295	62,961	162,126	41,521
1905 ...	105,529	36,605	61,588	150,261	42,049
1906 ...	104,244	36,171	59,829	154,570	43,094
1907 ...	106,326	35,921	60,239	153,478	47,688
1908 ...	109,768	36,517	62,379	162,757	37,705
1909 ...	111,252	36,029	63,565	176,162	45,460
1910 ...	113,418	36,142	63,782	187,433	44,768
1911 ...	113,664	36,141	63,859	189,048	41,557
1912 ...	117,034	36,226	52,799	215,629	40,157

* Not including soap made in small soap works not classified as factories, viz., 13,369 cwt. in 1903, 7,902 cwt. in 1904, 7,185 cwt. in 1905, 11,706 cwt. in 1906, 10,527 cwt. in 1907, 7,125 cwt. in 1908, 5,458 cwt. in 1909, 5,479 cwt. in 1910, 6,216 cwt. in 1911, and 4,732 cwt. in 1912.

The quantity of tallow used in 1912 in the manufacture of soap and candles was 146,679 cwt. in factories, and 1,716 cwt. in minor works.

The imports from oversea countries in 1912 included 1,437,857 lbs. of soap valued at £49,409, and 110,397 lbs. of candles valued at £2,892.

Brickyards, potteries, &c.

The brickyards and potteries at which work was carried on during the year numbered 119. The persons employed numbered 2,149, of whom 102 were working proprietors, and the sum of £236,526 was paid to the employés in wages. The value of land, plant, buildings, &c., was £444,123. The estimated value of the bricks made in these brickyards in 1912 was £339,861.

The number of bricks made, and the value of pottery and of pipes and tiles manufactured during each of the last ten years, were returned as follows:—

BRICKS, POTTERY, PIPES, AND TILES: 1903 TO 1912.

Year.	Number of Bricks Made.*	Value of	
		Pipes and Tiles.	Pottery.
		£	£
1903	77,826,631	81,732	34,572
1904	80,026,511	53,454	31,438
1905	90,990,284	56,086	27,205
1906	112,966,270	58,349	27,570
1907	123,281,100	66,390	29,070
1908	124,985,542	72,024	33,029
1909	129,302,810	77,305	32,624
1910	145,809,500	83,397	31,897
1911	153,944,850	97,478	35,522
1912	180,724,160	123,944	44,788

* In addition there are bricks made in small brickyards not tabulated as factories.

The expansion of building operations, especially in Melbourne and suburbs during the last seven years, is demonstrated by the number of bricks made.

Forest saw-mills, &c.

The number of forest saw-mills being worked in 1912 was 150. The employés numbered 1,989, and the working proprietors 175, and the wages paid amounted to £183,169. The approximate value of machinery, plant, land, buildings, and improvements in each of the last ten years appears in the following statement, together with the quantity and value of timber sawn:—

FOREST SAW-MILLS: 1903 TO 1912.

Year.	Approximate Value of—			Timber Sawn.	
	Machinery and Plant in use.	Land.*	Buildings and Improvements.	Quantity.	Value.
	£	£	£	Super. ft.	£
1903	80,039	1,495	10,797	38,841,322	116,845
1904	89,760	1,966	12,301	49,250,000	147,750
1905	87,757	2,553	10,861	47,635,358	142,905
1906	90,305	1,168	9,286	51,103,000	153,309
1907	99,723	1,421	11,199	55,873,500	181,590
1908	98,804	2,669	13,095	54,602,200	177,460
1909	115,121	2,609	15,551	56,039,200	189,130
1910	125,528	2,202	16,067	70,947,200	248,320
1911	148,136	2,535	18,459	70,931,500	265,990
1912	170,437	2,333	22,985	73,374,900	265,980

* Value of land occupied by saw-mills only.

The other factories in which operations on wood were carried on numbered 263, and comprised cooperage works (14), which gave employment to 116 persons, including 12 working proprietors, and paid the sum of £13,172 in wages; cork-cutting works (4), in which were engaged 7 working proprietors, and 45 employés who were paid £4,724 in wages; dairy and domestic implements and bellows works (4), employing 57 persons, inclusive of 5 working proprietors, and paying £5,190 in wages; saw-milling, moulding, and joinery works (192), employing 4,430 persons, inclusive of 208 working proprietors, and paying £476,334 in wages; mantelpiece works (15), employing 272 persons, inclusive of 20 working proprietors, and paying £27,169 in wages; and wood carving and turnery works (34), employing 275 persons, inclusive of 37 working proprietors, and paying £23,506 in wages.

Firewood, &c.

It is estimated that the approximate value of the production of firewood for consumption in a year is £457,890. In addition, there are supplies of railway sleepers, piles, posts and rails, shingles, and timber for mines obtained from the forests, but it has been found impossible to procure reliable information as to their value.

Agricultural Implement Works.

The subjoined statement contains the leading particulars relating to agricultural implement works for the last nine years:—

AGRICULTURAL IMPLEMENT WORKS, 1904 TO 1912.

Year.	No. of Factories.	Employés.	Wages Paid.	Approximate Value of—		
				Fuel, &c., Used.	Material Used.	Output.
			£	£	£	£
1904	50	1,440	129,559	6,965	171,691	431,476
1905	53	1,565	145,651	7,964	171,850	443,114
1906	53	1,685	148,610	8,928	194,730	478,509
1907	55	1,553	147,675	9,554	188,173	452,841
1908	52	1,381	134,884	9,253	177,488	437,023
1909	52	1,831	181,391	12,697	242,922	611,293
1910	50	2,193	231,919	21,537	300,718	742,326
1911	59	2,651	297,824	19,299	345,665	831,474
1912	67	2,590	309,789	19,388	329,397	799,217

The figures show a considerable improvement in the output during the last four years, as a consequence of which there has been a substantial increase in the number of hands employed and in the wages paid. The wages averaged for each employé £89 19s. 5d. in 1904 and £119 12s. 2d. in 1912. The stripper-harvester, which is a Victorian invention, is one of the principal implements manufactured. This strips the grain, and bags it ready for market in one operation.

It is the leading item in machinery exported from Victoria, being in good demand not only in other Australian States, but also in the Argentine and South Africa.

Bacon and ham curing.

There were 29 establishments curing bacon and hams in 1912. The persons employed numbered 434, of whom 35 were working proprietors. The wages paid to employés amounted to £45,794. Further details of the industry for the last ten years are as follows:—

BACON CURING: 1903 TO 1912.

Year.	Approximate Value of—			Pigs Slaughtered for Curing.	Weight of Bacon and Hams Cured.
	Machinery and Plant.	Land.	Buildings and mprovements.		
	£	£	£	No.	lbs.
1903 ...	26,810	5,721	23,415	88,541	9,633,206
1904 ...	27,822	5,641	25,730	104,604	11,229,768
1905 ...	28,335	5,941	25,650	117,582	11,360,698
1906 ...	28,217	6,031	29,140	135,492	12,910,575
1907 ...	25,530	5,245	26,575	145,513	13,609,144
1908 ...	26,448	5,190	27,653	129,677	11,518,404
1909 ...	26,092	5,190	28,650	123,067	11,245,195
1910 ...	26,799	5,265	29,410	142,429	13,455,397
1911 ...	31,374	4,979	38,946	177,029	15,190,449
1912 ...	42,398	7,270	67,542	179,717	16,044,228

This table does not include pigs slaughtered for curing, nor bacon and hams cured in small curing works; the pigs so slaughtered numbered 2,438 in 1903, 2,124 in 1904, 2,801 in 1905, 2,680 in 1906, 2,771 in 1907, 2,263 in 1908, 2,691 in 1909, 1,637 in 1910, 695 in 1911, and 671 in 1912; the quantity (in pounds) of bacon and hams cured was 181,745 in 1903, 194,102 in 1904, 246,374 in 1905, 252,348 in 1906, 244,837 in 1907, 194,328 in 1908, 294,088 in 1909, 142,524 in 1910, 70,440 in 1911, and 50,500 in 1912.

In addition, the following quantities of bacon and hams were returned as having been cured on farms:—2,689,900 lbs. in 1903, 3,428,074 lbs. in 1904, 4,826,593 lbs. in 1905, 4,888,243 lbs. in 1906, 3,691,739 lbs. in 1907, 2,698,669 lbs. in 1908, 2,375,290 lbs. in 1909, 2,983,440 lbs. in 1910, 4,356,323 lbs. in 1911, and 3,999,478 lbs. in 1912. The total quantity of bacon and hams cured in 1912 was thus 20,094,206 lbs.—an increase of 476,994 lbs. as compared with 1911.

Butter and cheese factories.

The number of butter and cheese factories, exclusive of creameries, was 197 in 1912. Of these factories, 156 made butter, 7 made butter and cheese, 1 made butter and concentrated and condensed milk, 1 made butter and concentrated milk, 1 made butter and condensed milk, 1 made butter and condensed and powdered milk, 1 made powdered milk, 1 made casein, and 28 made cheese only. There were

73 creameries attached to the factories. The number of persons employed was 1,418, of whom 44 were working proprietors, representing a decrease of 129 on the number for the previous year. The approximate value of machinery, plant, land, buildings, and improvements was £635,358. The quantity of milk received at the factories and creameries was 137,866,515 gallons in 1907, 104,980,863 gallons in 1908, 116,034,058 gallons in 1909, 149,490,103 gallons in 1910, 191,128,362 gallons in 1911, and 150,079,730 gallons in 1912. The output from butter and cheese factories during each of the last ten years was as follows:—

BUTTER AND CHEESE FACTORIES: 1903 TO 1912.

Year.	Butter Made.	Cream Sold.	Cheese Made.	Concentrated, Condensed, &c., Milk Made.
	lbs.	gallons.	lbs.	lbs.
1903 ...	40,707,377	17,882	3,602,988	2,838,972
1904 ...	55,058,391	7,242	2,599,443	2,721,720
1905 ...	52,274,639	16,513	2,447,938	2,787,720
1906 ...	63,231,222	20,332	2,852,687	3,709,656
1907 ...	59,050,231	25,442	2,691,957	4,684,656
1908 ...	44,383,168	17,527	2,473,682	3,781,548
1909 ...	49,554,628	19,417	3,167,955	3,894,859
1910 ...	65,063,516	29,910	2,707,630	3,004,842
1911 ...	81,267,119	34,028	3,047,261	13,697,691
1912 ...	62,227,144	41,952	2,171,913	18,456,094

Butter and cheese made on farms.

In addition to the quantity of butter and cheese made in the factories, the following quantities were returned as having been made on farms:—Butter, 5,978,350 lbs. in 1903, 5,944,450 lbs. in 1904, 5,332,182 lbs. in 1905, 4,856,946 lbs. in 1906, 4,696,123 lbs. in 1907, 4,078,230 lbs. in 1908, 5,611,927 lbs. in 1909, 5,540,271 lbs. in 1910, 5,233,355 lbs. in 1911; and 5,428,690 lbs. in 1912; cheese, 2,078,527 lbs. in 1903, 2,148,408 lbs. in 1904, 1,849,412 lbs. in 1905, 2,024,906 lbs. in 1906, 1,705,952 lbs. in 1907, 1,854,962 lbs. in 1908, 1,857,879 lbs. in 1909, 1,823,263 lbs. in 1910, 1,502,582 lbs. in 1911, and 2,004,865 lbs. in 1912.

Total butter and cheese made.

Taking the returns of butter from all sources, the largest quantity, 86,500,474 lbs., was made in 1911, the returns for 1907, 1908, 1909, 1910, and 1912, being 63,746,354 lbs., 48,461,398 lbs., 55,166,555 lbs., 70,603,787 lbs., and 67,655,834 lbs. respectively.

The largest quantity of cheese returned as having been made in factories and on farms was 5,681,515 lbs. in 1903. The quantities made in 1908, 1909, 1910, 1911, and 1912 were 4,328,644 lbs., 5,025,834 lbs., 4,530,893 lbs., 4,549,843 lbs., and 4,176,778 lbs. respectively.

Exports of butter and cheese.

In 1912 there were exported to countries outside Australia 31,451,378 lbs. of butter valued at £1,545,771, all of which was Australian produce. Of this export a quantity representing 88 per

cent. of the value was sent to the United Kingdom. The quantity of cheese exported to oversea countries was 28,252 lbs., and the value thereof £1,130.

Meat freezing and preserving works.

The works for freezing and preserving meat numbered 12 in 1912, and employed 1,055 persons in addition to 8 working proprietors, the wages of the employés amounting to £106,339. The approximate value of machinery, plant, land, buildings, and improvements in 1912 was £409,457. The output in each of the last ten years was as follows:—

MEAT FREEZING AND PRESERVING, 1903 TO 1912.

Year.	Frozen.			
	Cattle.	Sheep.	Rabbits.	Poultry.
	Qrs.	No.	No.	No.
1903	1,424	294,906	7,003,022	41,460
1904	3,394	459,963	8,086,776	46,820
1905	5,656	649,107	10,259,904	51,705
1906	4,248	651,914	9,538,535	72,410
1907	10,760	866,498	6,413,560	56,275
1908	16,508	773,396	4,057,896	22,826
1909	17,360	941,309	2,832,924	22,440
1910	36,464	1,573,516	2,660,604	60,312
1911	40,184	1,578,133	2,312,928	35,388
1912	29,752	1,409,243	2,101,704	28,824

Year.	Preserved.			
	Beef.	Mutton.	Rabbits.	Other Meats, &c.
	Cwt.	Cwt.	Cwt.	Cwt.
1903	8,796	2,653	17,380	4,725
1904	4,248	491	14,977	1,301
1905	4,866	1,435	6,665	776
1906	6,011	1,700	496	1,512
1907	11,944	2,478	64	2,229
1908	7,557	2,309	1,730	1,391
1909	8,382	2,349	540	1,267
1910	13,589	8,876	1,389	2,534
1911	28,654	14,890	3,422	2,679
1912	37,984	22,387	...	3,056

NOTE.—In addition to the above, 15,249 calves, 1,959 pigs, and 25,952 hares were treated at freezing works in 1905; 6,947 calves, 2,580 pigs, and 38,397 hares in 1906; 8,047 calves, 2,196 pigs, and 55,196 hares in 1907; 11,662 calves, 2,296 pigs, and 29,796 hares in 1908; 3,059 calves, 225 pigs, and 8,724 hares in 1909; 3,893 calves, 1,557 pigs, and 29,532 hares in 1910; 7,308 calves, 1,609 pigs, and 58,008 hares in 1911; and 3,355 calves, 3,120 pigs, and 43,224 hares in 1912.

Imports and exports of meats.

The following statement shows the imports and exports (excluding Inter-State transfers) of frozen and preserved meats, other than bacon and ham, during 1912:—

MEATS IMPORTED AND EXPORTED OVERSEA, 1912.

—	Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Meats, Frozen—				
Mutton	6,092 lbs.	68	27,024,708 lbs.	346,398
Lamb	...	...	23,380,703 "	415,946
Beef	309 lbs.	4	4,582,640 "	54,794
Pork	42,657 "	1,418	299,175 "	4,258
Rabbits and Hares	...	...	1,111,902 pairs	57,233
Poultry	1,257 lbs.	33	13,631 "	5,785
Game	3,007 "	166	...	...
Other	280 "	7	322,694 lbs.	4,883
Meats—Fresh and smoked ...	1,097 "	31	...	...
" Potted and concentrated	...	9,159	...	5,758
" Preserved in tins ...	165,057 lbs.	9,205	1,493,455 lbs.	32,542
" Not elsewhere included	120 cwt.	280	1,856 cwt.	3,327
Total value ...	...	20,371	...	930,924

Flour mills.

The number of flour mills in 1912 was 61, and the number of persons employed in them 845, of whom 55 were working proprietors. The wages paid to employés amounted to £95,266. Further particulars for ten years are given in the following table:—

FLOUR MILLS: 1903 TO 1912.

Year.	Approximate Value of—			Wheat Ground into Flour.	Flour Made.
	Machinery and Plant.	Land.	Buildings and Improvements.		
	£	£	£	bushels.	tons.
1903	261,530	68,917	166,869	5,762,849	115,368
1904	235,508	52,220	147,559	10,012,476	202,314
1905	238,139	56,910	157,785	10,282,491	209,058
1906	243,149	59,540	163,322	10,892,056	219,166
1907	264,566	63,157	174,150	11,731,183	235,185
1908	254,671	57,167	167,573	9,564,068	192,687
1909	226,571	50,801	155,728	10,644,123	215,547
1910	242,851	52,697	165,165	11,218,870	225,282
1911	253,513	51,276	167,177	12,266,013	247,434
1912	261,403	50,619	172,085	11,185,138	225,376

In addition to the flour made, the wheat ground in 1912 produced 6,307,996 bushels of bran and 4,213,668 bushels of pollard. Other grain operated on amounted to 139,702 bushels in 1903, 157,403

bushels in 1904, 75,595 bushels in 1905, 111,719 bushels in 1906, 123,885 bushels in 1907, 123,879 bushels in 1908, 45,487 bushels in 1909, 35,507 bushels in 1910, 84,707 bushels in 1911, and 98,243 bushels in 1912.

Exports of bread-stuffs.

During the year 1912, 2,874,992 lbs. of biscuits, valued at £40,165, and 68,781 tons of flour valued at £600,267 were exported from Victoria to countries beyond Australia.

Jam, pickle, and sauce works.

There were, in 1912, 31 establishments in which the manufacture of jams, pickles, and sauces was carried on; the number of persons employed therein was 1,737, of whom 26 were working proprietors. The wages paid to the employés amounted to £110,740, and the value of machinery, plant, land, and buildings was £170,072. The fruit and sugar used and the output for each of the last nine years were as follows:—

JAM, PICKLE, AND SAUCE WORKS: 1904 TO 1912.

Year.	Fruit Used.	Sugar Used.	Jams and Jellies Made.	Fruit Preserved.	Fruit Pulped.	Sauce Made.	Pickles Made.
	cwt.	cwt.	cwt.	cwt.	cwt.	pints.	pints.
1904 ...	199,306	97,057	190,151	22,408	115,295	2,143,555	920,163
1905 ...	175,119	107,382	192,579	35,395	44,450	2,029,644	859,160
1906 ...	195,902	107,194	203,038	43,138	56,619	2,943,380	889,938
1907 ...	218,276	105,518	190,211	33,819	95,885	3,257,471	1,253,280
1908 ...	191,282	133,283	226,481	31,336	18,783	3,014,835	1,187,136
1909 ...	265,353	143,427	268,927	40,746	49,797	3,607,968	1,324,392
1910 ...	311,168	159,439	303,733	49,797	38,017	4,173,936	1,264,728
1911 ...	315,362	156,376	286,543	53,562	52,427	4,348,500	1,617,156
1912 ...	307,458	154,381	258,470	63,133	56,488	5,886,336	1,482,252

These works also candied fruit peel amounting to 3,283 cwt. in 1908, to 4,802 cwt. in 1909, to 3,902 cwt. in 1910, to 3,549 cwt. in 1911, and to 2,763 cwt. in 1912.

Sugar works.

There are two sugar works in the State, one of which treats cane sugar imported in a raw state chiefly from Queensland. The other is the Government Beet Sugar Factory. The quantity of raw material treated in those two factories in 1912 and the production therefrom were as follows:—

Raw cane sugar treated	1,424,940	cwt.
Sugar beet treated	124,140	"
Refined sugar produced	1,374,220	"
Refined treacle produced	38,020	"

Beet sugar industry.

In 1896 Parliament passed an Act making available £100,000, of which £62,000 was expended in promoting the establishment of the beet sugar industry on the basis of £2 for every £1 of private capital subscribed. A company was formed, and a substantial building, equipped with a modern plant, was erected at Maffra, in Gippsland. Starting with every essential for success, and with a guarantee that 1,500 acres of beet would be sown by local land-holders, the industry, after various vicissitudes, was compelled to cease operations after two manufacturing campaigns, and the building and plant which fell into the hands of the Government under the terms of its mortgage remained idle for twelve years.

In seeking for the causes of past failures, the more extended knowledge now possessed of the problems surrounding the industry indicates that they were mainly attributable to want of experience on the part of beet-growers, combined with unprecedentedly dry seasons and an unsuitable class of field labour; for, while no particular skill is required in beet growing, yet the crop demands prompt attention at the period of thinning or spacing, and, moreover, calls for the exercise of particular care in keeping it clean during growth.

In 1910 a definite campaign to revive the industry was commenced, numerous experimental beet plots were established throughout Gippsland in order to familiarize land-holders with beet-growing, lectures were given explanatory of the Government proposals and different phases of the industry, and a system of field labour was organized. The object of the campaign was to demonstrate that beet could be profitably grown, and that a fine white sugar could be manufactured. Both these ends were attained, as many farmers who grew beet made a successful business of it, and the sugar produced compared favorably with any manufactured in the Commonwealth.

With the view of putting the industry on a sound footing, the Government has purchased large areas at Boisdale and Kilmany Park. These estates are in railway communication with Maffra, and have been cut up into small holdings under the Closer Settlement Board, which are allotted to settlers subject to the proviso that each must grow a certain area of beet.

The season of 1913 was a disappointing one from the agricultural side, owing to lack of rainfall in the winter months and during the months of December and January, which is the period of root

development. Prior to this the crop looked wonderfully well, with an excellent growth of top and leaves, but continued dry weather with hot winds caused a serious check from which the crop never recovered, although even under these conditions, which were so serious that the potato, maize and bean crops were a complete failure, the beet crop managed to struggle through to half a harvest. The harvest obtained from 900 acres amounted to 6,207 tons of beets, from which the sugar production was 659 tons of white sugar. Even with this limited supply of available raw material, the manufacturing operations were conducted smoothly and with success, and a superior quality of sugar was produced, which is being sold at highest market prices locally, where there is a demand for much more than the amount manufactured. The manufacturing operations should for the first time show a profit.

The following particulars summarize the results of the last three seasons, of which the latter two were exceptionally dry:—

Season.	Area.	Sugar Beet Harvested.	Sugar Manufactured.
	acres.	tons.	tons.
1910–11	458	5,969	482
1911–12	752	4,000	519
1912–13	900	6,207	659

A much larger acreage than in 1913 is expected to be harvested in 1914, as owing to the increase in the price to be paid for the beets from 20s. to an average of 22s. 6d. per ton, an inducement is given to those farmers who have not hitherto cultivated the crop, and there are indications that the area outside the Closer Settlement blocks will be doubled, as the profitableness of the culture, especially under irrigation, is now fairly well recognized in this district. Recognizing the advantages of irrigation, the Administration has taken steps to introduce the system on the Closer Settlement Estates of Boisdale and Kilmany—so that a failure in the crop through drought such as happened in the last two seasons will be avoided.

Breweries.

In 1912 work was carried on in 29 breweries, and 1,008 persons were employed, including 24 working proprietors. The wages paid to employés during the year amounted to £149,605. The approximate value of the machinery, plant. land, buildings, and improve-

ments, the materials used, and the quantity of beer made during each of the last ten years were as follows:—

BREWERIES: 1903 TO 1912.

Year.	Approximate Value of—			Materials Used—			Beer Made
	Machinery and Plant.	Land.	Buildings and Improvements.	Sugar.	Malt.	Hops.	
	£	£	£	cwt.	bushels.	lbs.	gallons.
1903 ...	209,492	229,965	277,383	102,651	552,042	569,981	15,423,149
1904 ...	231,687	229,965	291,180	100,430	530,771	544,524	14,927,873
1905 ...	232,354	198,760	291,738	99,230	529,067	582,012	15,176,439
1906 ...	235,980	197,985	289,982	101,692	533,531	623,249	16,409,465
1907 ...	249,579	212,785	316,262	106,004	542,806	665,236	16,900,336
1908 ..	268,009	155,922	273,273	109,347	556,040	684,879	17,582,833
1909 ...	245,606	65,775	231,546	103,146	503,761	632,339	16,552,594
1910 ...	281,702	68,069	249,848	112,240	540,390	663,394	18,605,737
1911 ...	318,072	67,206	290,746	111,314	548,341	649,892	19,077,420
1912 ...	325,658	69,671	314,536	119,667	566,779	659,323	20,247,337

Distilleries.

The number of distilleries working in 1912 was 7, and the persons employed numbered 41, of whom 5 were working proprietors. The estimated value of the machinery, plant, land, buildings, and improvements was £147,080. The materials used in manufacture, and the quantity of spirits distilled in each of the last ten years, were as follows:—

DISTILLERIES: 1903 TO 1912.

Year.	Materials Used.							Spirits Distilled.
	Wine.	Malt.	Wheat.	Maize.	Other Grain.	Sugar and Molasses.	Beer.	
	Gal.	Bush.	Bush.	Bush.	Bush.	lbs.	Gal.	Proof gal.
1903	207,621	...	...	...	...	...	1,187	41,083
1904	293,836	...	...	...	...	...	...	58,745
1905	348,791	...	...	...	...	199,360	...	85,690
1906	324,005	13,038	...	...	...	101,024	...	94,674
1907	413,242	141,876	...	...	...	49,280	...	375,183
1908	591,248	53,761	...	...	...	...	...	220,690
1909	379,979	117,197	...		...	...	...	314,370
1910	605,204	25,345		3,560	...	649,152	...	223,560
1911	370,119	61,981	548	...	204	1,293,152	...	298,237
1912	580,976	...	...	...	...	791,056	...	152,645

Spirits made by vine-growers for fortifying wine are not included in this table. The following quantities were distilled for that purpose during the last ten years in vineyards:—56,851 gallons in 1903, 73,210 gallons in 1904, 78,163 gallons in 1905, 60,521 gallons in 1906, 53,517 gallons in 1907, 50,954 gallons in 1908, 30,976 gallons in 1909, 13,427 gallons in 1910, 29,745 gallons in 1911, and 23,874 gallons in 1912.

Sixteen tobacco manufactories were in operation in 1912, and in that year the employés numbered 1,775, and their wages amounted to £191,162. In addition to the employés there were 13 working proprietors. The value of machinery, plant, land, buildings, and improvements was £278,899. The output of these factories has materially increased, as will be seen from the particulars for the last ten years given in the following table:— Tobacco, &c., manufactories.

TOBACCO FACTORIES: 1903 TO 1912.

Year.	Unmanufactured Leaf Operated on.		Quantity Manufactured of—			
	Australian	Imported.	Tobacco.	Snuff.	Cigars.	Cigarettes.
	lbs.	lbs.	lbs.	lbs.	No.	No.
1903... ...	304,049	2,052,100	2,390,976	813	9,336,975	58,928,535
1904... ...	266,053	2,768,873	3,166,767	1,122	12,419,426	73,304,100
1905... ...	265,219	3,597,887	3,981,357	1,051	14,324,536	103,673,300
1906... ...	431,941	4,172,065	4,650,113	516	18,762,205	131,161,460
1907... ...	332,271	4,479,073	4,782,061	993	17,740,782	146,699,600
1908... ...	269,354	5,566,522	5,331,117	605	19,741,355	178,776,650
1909... ...	202,723	4,759,856	5,162,959	610	19,368,491	141,105,750
1910... ...	195,279	5,225,078	5,510,099	577	21,310,111	135,108,700
1911... ...	180,501	4,972,275	5,521,175	603	22,424,806	116,435,800
1912... ...	165,156	5,137,331	5,641.647	702	23,333,951	97,400,400

NOTE.—The quantity manufactured in small factories (£5 licences) is included in the above table.

There were 10 woollen mills working in 1912, and the number of persons employed therein was 1,672, of whom 7 were working proprietors. The wages paid to employés amounted to £115,096, and the approximate value of the machinery, plant, land, buildings, and improvements to £422,421. The value of the raw materials used in mills during the year was £245,220, and that of the goods manufactured in the same period, £473,880. The quantities of wool and cotton used and of goods manufactured in each of the last ten years were as follows:— Woollen mills.

WOOLLEN MILLS: 1903 TO 1912.

Year.	Quantity of Scoured Wool Used.	Quantity of Cotton Used.	Goods Manufactured—			
			Tweed and Cloth.	Flannel.	Blankets.	Shawls and Rugs.
	lbs.	lbs.	yards.	yards.	No. of Pairs.	No.
1903 ...	2,130,100	368,749	662,381	3,201,275	77,601	6,565
1904 ...	2,368,871	211,256	697,726	3,301,004	86,253	8,431
1905 ...	2,663,587	499,630	738,924	3,355,013	145,106	8,516
1906 ...	2,825,218	658,882	840,649	3,637,846	146,628	8,383
1907 ...	3,311,097	914,003	867,789	4,088,383	199,743	12,089
1908 ...	3,210,925	965,042	922,176	4,396,862	228,621	15,222
1909 ...	3,093,383	880,934	949,674	4,713,571	225,148	15,189
1910 ...	3,136,442	955,894	890,281	4,640,401	191,651	18,185
1911 ...	3,409,105	897,804	901,348	4,691,255	240,961	13,718
1912 ...	3,265,390	1,061,201	1,013,444	4,604,654	265,637	14,476

Boot factories.

The development which has taken place in the boot industry in recent years is exhibited by the following tables :—

BOOT FACTORIES : 1903 TO 1912.

Year.	Number of Factories.	Persons Employed.	Value of Land, Buildings and Machinery.	Wages Paid.
			£	£
1903 ...	136	5,267	229,396	299,176
1904 ...	131	5,655	241,342	332,749
1905 ...	136	5,810	243,549	330,023
1906 ...	134	5,755	253,436	332,538
1907 ...	139	6,303	292,474	368,503
1908 ...	139	6,348	284,982	371,081
1909 ...	136	6,894	294,167	415,011
1910 ...	144	6,832	324,529	455,997
1911 ...	154	7,001	363,540	542,707
1912 ...	151	6,774	378,501	570,025

OUTPUT OF BOOT FACTORIES : 1903 TO 1912.

Year.	Goods Manufactured— Boots and Shoes.	Slippers.*
	No. of pairs.	No. of pairs.
1903	3,574,761	150,012
1904	4,065,881	189,108
1905	3,951,033	165,892
1906	4,001,580	175,575
1907	4,290,122	182,039
1908	4,164,410	193,949
1909	4,649,130	231,791
1910	4,847,368	191,204
1911	5,198,030	164,313
1912	4,966,768	220,616

* Includes canvas shoes and house-boots.

Materials used in Victorian boot factories were valued at £884,329 in 1909, at £963,110 in 1910, at £1,103,653 in 1911, and at £1,132,045 in 1912 ; the value of the output for the same years being £1,487,789, £1,620,179, £1,878,308, and £1,951,998 respectively.

Electric light and power works.

Great strides have been made during the last few years in the use of electricity for lighting and motive power purposes, as will be seen from the succeeding statement. The electricity supplied in 1912 represents an increase of 390 per cent. on that supplied in 1903.

ELECTRIC LIGHT AND POWER WORKS : 1903 TO 1912.

Year.	Number of Stations.	Horse-power of Machinery.	Persons Employed.*	Wages Paid.	Electricity Supplied.
				£	British Units.
1903 ...	7	4,955	149	18,785	5,626,568
1904 ...	7	5,226	222	22,422	6,644,343
1905 ...	7	6,753	251	23,356	7,698,394
1906 ...	9	9,130	363	38,398	9,760,046
1907 ...	11	9,948	398	44,489	12,542,614
1908 ...	12	11,702	441	50,442	14,310,482
1909 ...	13	13,293	442	54,621	16,471,368
1910 ...	16	13,962	523	62,266	18,832,467
1911 ...	20	15,819	590	75,722	23,011,340
1912 ...	24	20,005	666	89,435	27,579,734

* Prior to 1904 persons engaged in the distribution of electricity are excluded.

In 1903 machinery and plant, land, buildings, and improvements connected with electric light and power works were valued at £285,234; in 1912 the value was £1,124,411.

The approximate value of machinery and plant, land, buildings, and improvements connected with gasworks in Victoria was £1,164,320 in 1903, and £1,751,819 in 1912. The gas made in the latter year was 91 per cent. in excess of that made in 1903. Gasworks.

GASWORKS: 1903 TO 1912.

Year.	Coal Used.	Gas Made.	Coke Produced.	Number of Works.	Persons Employed.*	Wages Paid.
	tons.	cubic feet.	tons.			£
1903	166,018	1,628,889,400	94,947	47	679	81,928
1904	166,307	1,649,396,000	97,357	48	872	104,383
1905	168,007	1,707,184,000	98,559	48	989	128,372
1906	178,251	1,810,405,800	105,909	48	1,125	138,701
1907	189,190	1,975,892,500	112,050	48	1,272	157,525
1908	206,408	2,144,834,000	126,530	47	1,298	168,077
1909	217,473	2,292,988,400	131,695	47	1,390	181,965
1910	235,532	2,476,528,100	139,423	47	1,421	199,308
1911	261,848	2,813,159,700	155,488	47	1,601	230,626
1912	284,670	3,108,555,700	171,750	47	1,835	275,755

* Prior to 1904 persons engaged in the distribution of gas are excluded.

Oil was used as well as coal in the manufacture of gas, the number of gallons consumed each year being 105,651 in 1903, 117,114 in 1904, 137,247 in 1905, 154,486 in 1906, 163,215 in 1907, 187,237 in 1908, 196,176 in 1909, 228,034 in 1910, 274,353 in 1911, and 306,405 in 1912.

Total production.

The value of all articles produced or manufactured in Victoria has been compiled from actual returns or estimates in the office of the Government Statist, and the results are set forth in the following table:—

VALUE OF VICTORIAN PRODUCTION: 1908 TO 1912.

Produce.	Value in—				
	1908.	1909.	1910.	1911.	1912.
Cultivation.	£	£	£	£	£
Wheat	4,405,303	5,501,605	5,512,060	3,547,266	4,343,202
Oats	989,844	777,547	909,295	663,916	953,750
Barley, Malting ...	192,964	121,365	172,717	202,620	259,217
Barley, Other ...	60,345	43,816	54,665	58,823	73,213
Maize	116,402	119,725	96,166	147,357	119,305
Other Cereals ...	47,404	36,844	50,834	37,026	48,458
Grass and Clover Seed	4,540	3,290	4,066	2,376	5,802
Potatoes	411,840	517,775	534,515	614,540	678,448
Onions	138,408	98,325	63,723	177,744	176,142
Other Root Crops ..	42,811	29,245	35,160	20,398	26,691
Hay	3,256,308	2,432,840	2,455,560	3,200,109	4,010,979
Straw	246,682	239,385	158,834	116,911	105,407
Green Forage* ...	157,665	141,465	179,565	187,943	211,150
Tobacco	4,748	3,691	3,783	4,094	1,587
Grapes, not made into wine, raisins, &c.	33,103	31,181	26,704	45,500	31,486
Raisins, ordinary ..	41,489	35,919	35,854	52,628	41,934
" sultanas ...	60,994	94,639	96,408	142,932	171,884
Currants	21,472	49,334	48,829	88,899	60,421
Wine	89,819	61,996	90,828	81,952	120,611
Hops	5,105	4,322	5,247	4,714	9,062
Other Crops ...	37,468	39,117	48,943	44,064	56,015
Fruit grown for Sale in Orchards and Gardens	400,055	449,497	551,280	585,172	656,363
Fruit in Private Orchards and Gardens	8,542	9,060	8,100	8,432	8,180
Market Gardens ...	231,975	255,350	269,450	258,275	260,350
Total ...	11,005,286	11,097,333	11,412,586	10,293,691	12,429,657
Dairying and Pastoral.					
Milk consumed in natural state	760,658	805,480	950,940	1,036,000	1,419,900
Butter made ..	2,388,743	2,493,990	3,109,510	3,860,100	3,478,640
Cheese made ...	126,252	130,670	105,340	106,160	125,480
Cream made (not for butter)	21,320	19,850	22,480	21,160	22,940
Condensed, Concentrated, and Powdered Milk	63,026	66,425	46,940	260,324	362,480
Horses	15,274	261,268	388,556	520,580	328,020
Cattle	298,606	1,602,858	1,860,888	2,344,680	1,165,430
Pigs	380,650	470,081	541,785	454,815	389,350
Sheep (without wool)	597,880	1,317,320	1,298,740	1,558,170	709,660
Wool	3,556,168	4,044,755	4,318,100	4,142,747	3,751,083
Total ...	8,208,577	11,212,697	12,643,279	14,304,736	11,752,983

* Exclusive of area under sown grasses.

VALUE OF VICTORIAN PRODUCTION: 1908 TO 1912—*continued.*

Produce.	Value in—				
	1908.	1909.	1910.	1911.	1912
	£	£	£	£	£
Mining.					
Gold	2,849,838	2,778,956	2,422,745	2,140,855	2,039,464
Coal	64,778	76,945	189,254	301,142	259,321
Stone from Quarries (including limestone)	84,479	88,610	114,955	151,426	161,843
Other Metals and Minerals	31,950	26,257	24,202	24,368	39,067
Total ...	3,031,045	2,970,768	2,751,156	2,617,791	2,499,695
Forest Produce.					
Timber (Forest Sawmills only)	177,460	189,130	248,315	265,990	265,980
Firewood (estimated)	396,750	402,600	428,670	446,700	457,890
Bark for Tanning .	56,694	66,520	70,570	77,350	82,380
Total ...	630,904	658,250	747,555	790,040	806,250
Miscellaneous.					
Honey and Beeswax	28,488	19,768	25,926	21,861	39,425
Poultry production (estimated)	1,547,000	1,570,000	1,592,000	1,618,500	1,659,100
Rabbits and Hares	224,894	219,890	247,152	195,987	261,534
Fish	71,910	75,101	72,187	69,675	89,648
Total ...	1,872,292	1,884,759	1,937,265	1,906,023	2,049,707
Total Value of Primary Products	24,748,104	27,823,807	29,491,841	29,912,281	29,538,292
Manufacturing — Added Value*	11,673,693	12,748,654	14,189,438	15,958,576	17,752,167
Grand Total ...	36,421,707	40,572,461	43,681,279	45,870,857	47,290,459

* Exclusive of value of output o butter and cheese factories, and forest saw-mills (as regards Victorian timber) included above.

Agricultural production shows a considerable advance in 1912, as compared with 1911, but the autumn experienced in 1912 was not favorable for the pastoral industry, and is reflected in the diminished production of live stock. The figures relating to rabbits and hares have been amended since last publication. An illustration of the progress made in the manufacturing industries is contained in the figures relating to the value added in the process of manufacture to that of the raw materials used.

The value of production per head of the total population in each of the last five years was as follows:—

VALUE OF PRODUCTION PER HEAD OF POPULATION: 1908 TO 1912.

Produce.	Value of Produce per head in—														
	1908.			1909.			1910.			1911.			1912.		
	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
Cultivation	8	13	11	8	13	3	8	15	8	7	15	10	9	3	7
Dairying and Pastoral	6	9	8	8	15	1	9	14	7	10	16	6	8	13	7
Mining	2	7	11	2	6	5	2	2	4	1	19	8	1	16	11
Forest	0	10	0	0	10	3	0	11	6	0	12	0	0	11	11
Miscellaneous ...	1	9	7	1	9	5	1	9	9	1	8	10	1	10	3
Total Primary Produce	19	11	1	21	14	5	22	13	10	22	12	10	21	16	3
Manufactures ...	9	4	5	9	19	0	10	18	4	12	1	7	13	2	1
Grand Total ...	28	15	6	31	13	5	33	12	2	34	14	5	34	18	4